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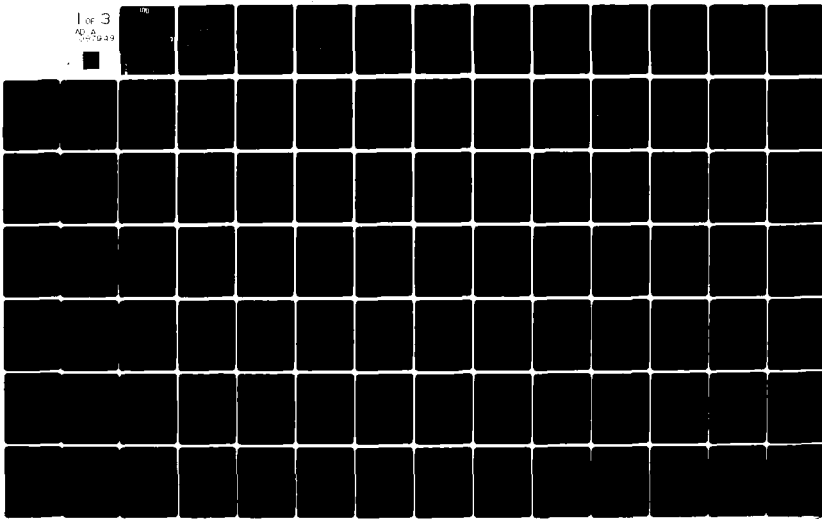
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CONSTRUCTION MANAGEMENT ACTIVITIES OF GOVERNMENTAL AGENCIES IN THE NEW  
ENGLAND AREA DURING THE CONSTRUCTION PHASE.

CAPTAIN RICHARD E. SLIWOSKI  
**HQDA, MILPERGEN** (DAPC-OPP-E)  
200 STOVALL STREET  
ALEXANDRIA, VA 22332

FINAL REPORT FEBRUARY 1980

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A THESIS SUBMITTED TO WORCESTER POLYTECHNIC INSTITUTE, WORCESTER  
MASSACHUSETTS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF SCIENCE IN CIVIL ENGINEERING.



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6 CONSTRUCTION MANAGEMENT ACTIVITIES OF GOVERNMENTAL  
AGENCIES IN THE NEW ENGLAND AREA  
DURING THE CONSTRUCTION PHASE .

10 by  
Richard Francis Sliwoski

A Thesis  
Submitted to the Faculty  
of the  
WORCESTER POLYTECHNIC INSTITUTE  
in partial fulfillment of the requirements for the  
Degree of Master of Science  
in  
Civil Engineering

by  
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) THIS THESIS EXAMINES THE CONSTRUCTION MANAGEMENT ACTIVITIES PERFORMED BY RESIDENT ENGINEERS OR THE SIMILARLY RESPONSIBLE INDIVIDUALS OF THREE GOVERNMENTAL AGENCIES; THE U.S. ARMY CORPS OF ENGINEERS, THE NAVAL FACILITIES ENGINEERING COMMAND, AND THE U.S. POSTAL SERVICE, DURING THE CONSTRUCTION PHASE. INFORMATION WAS GATHERED BY FIRST RESEARCHING APPLICABLE LAWS AND STATUTES, OBTAINING AGENCY REGULATIONS AND GUIDELINES AND REVIEWING THE AGENCIES' TRAINING MATERIAL. PERSONAL INTERVIEWS WERE THEN CONDUCTED TO COMPARE THEORY WITH PRACTICE.		

## ABSTRACT

This thesis examines the construction management activities performed by Resident Engineers or the similarly responsible individuals of three Government agencies; the U.S. Army Corps of Engineers, the Naval Facilities Engineering Command, and the U.S. Postal Service, during the construction phase. Information was gathered by first researching applicable laws and statutes, obtaining agency regulations and policy guidelines, and reviewing the agencies' training material. Personal interviews were then conducted to compare what should be done as opposed to how the system works in practice.

This thesis is written for three distinct readerships; the Contractor who has never performed construction work for a Government agency previously, a new employee of the subject agencies, and the student of Construction Management.

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## Introduction

Construction Management as a discipline is still in its formative years. The tools used by Construction Managers have been in existence for some time, but the techniques of applying these tools are still being researched and fine-tuned. Little has been written on how these tools are being utilized in day-to-day operations.

The U.S. Government is responsible for billions of dollars worth of new construction each year. Much of this construction is managed by the Government agencies themselves. This thesis concerns itself with three such Governmental agencies:

1. The U.S. Corps of Engineers
2. The Naval Facilities Engineering Command (NAVFAC)
3. The U.S. Postal Service (USPS)

All three agencies are governed by the same set of regulations, the Defense Acquisition Regulations, but because of their differing missions, are responsible for differing amounts of construction and vary in the procedures used to accomplish their mission.

The Army Corps of Engineers is responsible for a major portion of the Government's construction effort, estimated

at this time to be \$2.8+ billion. The Corps enjoys an excellent reputation, domestically and world-wide for its management of large construction projects. The Corps reputation internationally in construction management is attested to by the work it does for the Saudi Arabian Government. Measured by dollar cost, the Corps this year will be doing twice as much work for the Saudi Army as for the U.S. Army all over the world.<sup>1</sup> The oil rich developing nations seem to prefer dealing with a Government agency instead of private companies because it gives them more confidence.<sup>2</sup> Domestically, OSHA is studying the Corps approach to job-site safety<sup>3</sup> because of its excellent safety record. EPA has contracted for the Corps construction management services for its wastewater treatment grants program<sup>4</sup> which has resulted in fewer construction problems.

NAVFAC and the USPS account for smaller proportions of the Government's new construction. Whereas the Corps projects are generally large, NAVFAC and USPS generally have more contracts but for smaller sums.

Successful completion of any project to a great extent, rests with the day-to-day supervision, inspection and administration of that project. The objective of this thesis is to examine these proceedings at the lowest organizational

level, that of the Resident Engineer or Project Manager. The major elements of construction management the Government's Project Manager encounters in his day-to-day operations are examined and documented. This was achieved through researching policy guidelines and interviewing Government officials to obtain a clear picture of what policy is and what happens in practice.

Construction management is not normally a chronological process, it does not necessarily flow from one area to the next. Rather it is a system of independent subsystems which when integrated, is construction management. Therefore, the chapters, in most cases, are written to stand alone.

It is felt that this thesis is of interest to three different types of readers:

1. The student of construction management
2. The first time Government contractor
3. New employees with the construction branches of the three Government agencies.

The student of construction management will be able to examine the internal policies and procedures of these Governmental agencies' construction management branches to gain insight on the practical applications of construction management techniques. The first time Government contractor will learn

What the requirements are that are placed on him in the contract and how the agencies operate. The new Government employees will learn how their agencies basically operate and why they operate in that fashion.

## Chapter 1

### General Organization

The basis for Governmental contractual authority is the "Contracting Officer" system. The Contracting Officer is the officer or civilian employee, designated in writing, to enter into and administer contracts, and to make determinations and findings with respect to those contracts. The important fact to note is that, as opposed to private corporations, a Government official must have express authority. That is to say that the official has only the authority expressly given to him by his superiors and that this authority is always given in writing. An example of such authority is found in Appendix A1. When dealing with Government officials, it is in one's own interest to examine his authority prior to heeding his directives.

#### 1.1 Corps of Engineers General Organization

The US Army Corps of Engineers may be viewed as two separate entities, the Military Corps and the Civilian Corps. Figure 1.1 graphically depicts the distinction; the organization within the dashed lines represents the Civilian Corps, and the remaining units, the Military Corps. The civilian



# ENGINEERS IN THE ARMY

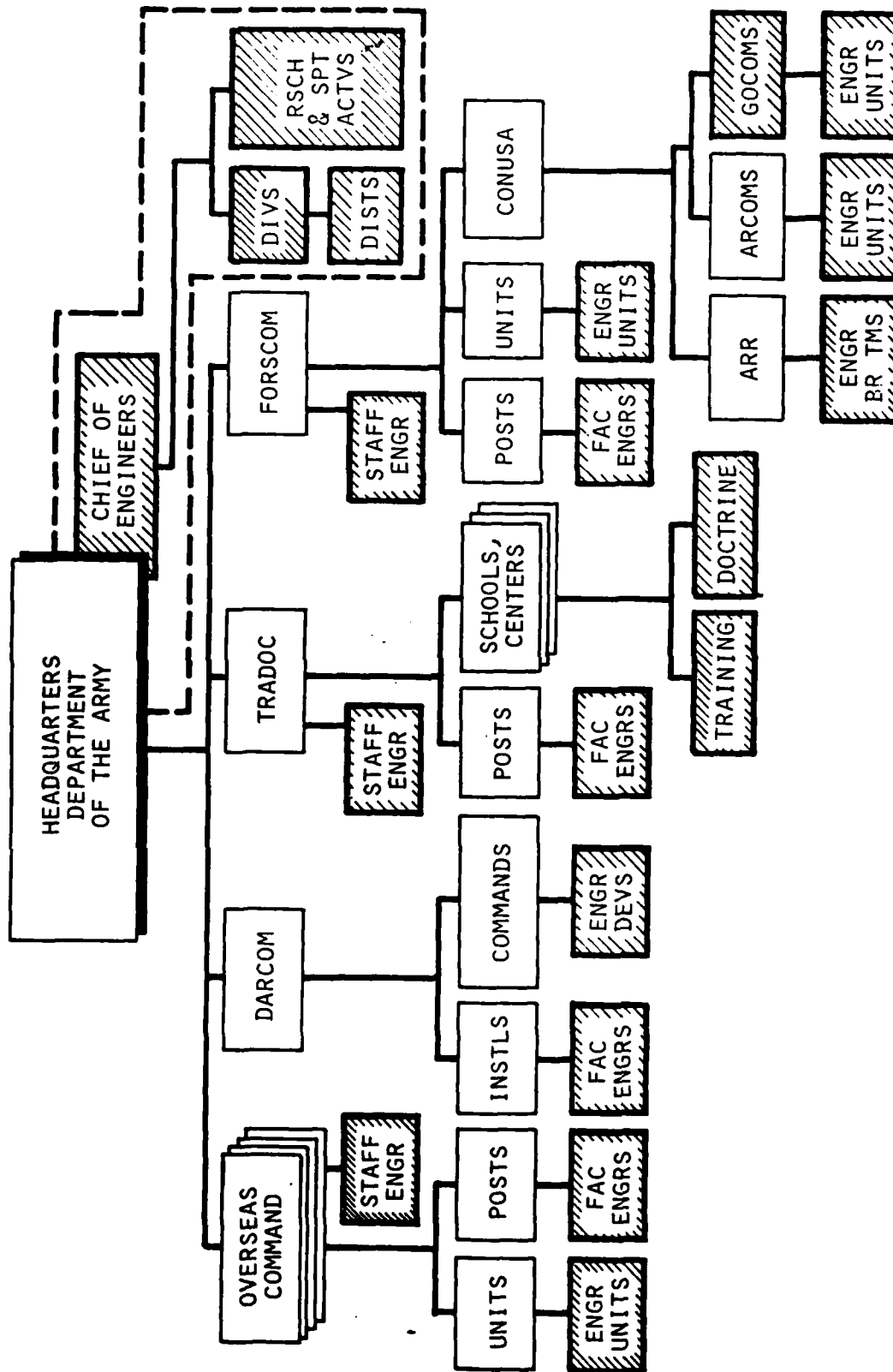


Figure 1.1

Corps is more commonly referred to as the Office of the Chief of Engineers (OCE).

The Chief of Engineers is head of an Army staff agency and commander of field operating agencies. As head of an Army staff agency, he is the principal advisor to the Secretary of the Army, the Army Chief of Staff, and to other elements of the Department of the Army staff on all engineering matters. His Army staff responsibilities include directing and coordinating environmental activities within the Army; staff supervision of facilities engineering operations, and of requirements, plans, and policies for Army military real estate; and planning and programming for Real Property Maintenance.

As a commander, the Chief of Engineers manages and executes engineering construction, and real estate programs for the Army and the Air Force, and for other United States and foreign governmental agencies as assigned; manages the Army's nuclear power and non-tactical generator programs; supervises research and development related to design, construction, operation and maintenance of facilities, and to topographic sciences and other activities as assigned.

Under the direction of Congress and the supervision of the Secretary of the Army, the Chief of Engineers has

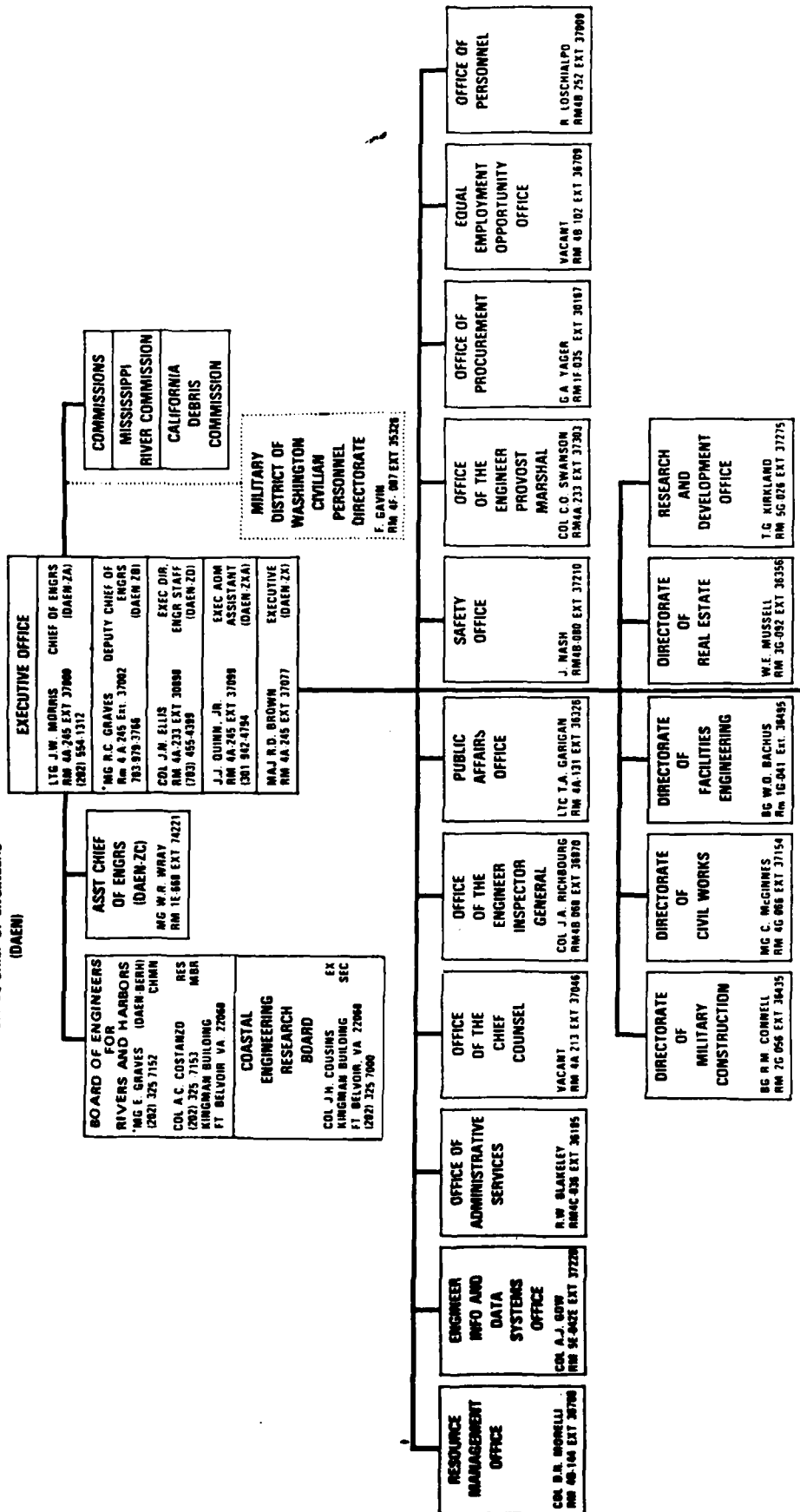
responsibility for investigating developing, and maintaining the Nation's water and related environmental resources; constructing and operating projects for navigation, flood control, major drainage, shore and beach restoration and protection, related hydroelectric power development, water supply, water quality control, fish and wildlife conservation and enhancement, and outdoor recreation; responding to emergency relief activities directed by other Federal agencies; administering laws for the protection and preservation of navigable waters, and emergency flood control and shore protection.

OCE employs over 35,000 civilian employees and 200 military officers. The organization chart is shown in Fig. 1.2. The mechanics of how OCE projects are conceived, authorized, funded and implemented are illustrated in Appendix A2.

OCE has 14 divisions and 39 districts. The divisions within the continental United States are delineated by major rivers and watershed areas. The division area is further delineated into districts, again according to watershed areas. Appendix A3 illustrates the division and district boundaries for the United States. Divisions are normally commanded by a Major General, and districts by Colonels. Figure 1.3 gives the typical organization chart for a division or district. The chart shown is for the New England Division (NED). NED

Figure 1.2 (1 of 2)

ORGANIZATION CHART  
CORPS OF ENGINEERS  
OFFICE CHIEF OF ENGINEERS  
(DAEN)



\*Real Capacity  
CORPORAL BUILDING UNLESS OTHERWISE INDICATED

Figure 1.3 (2 of 2)

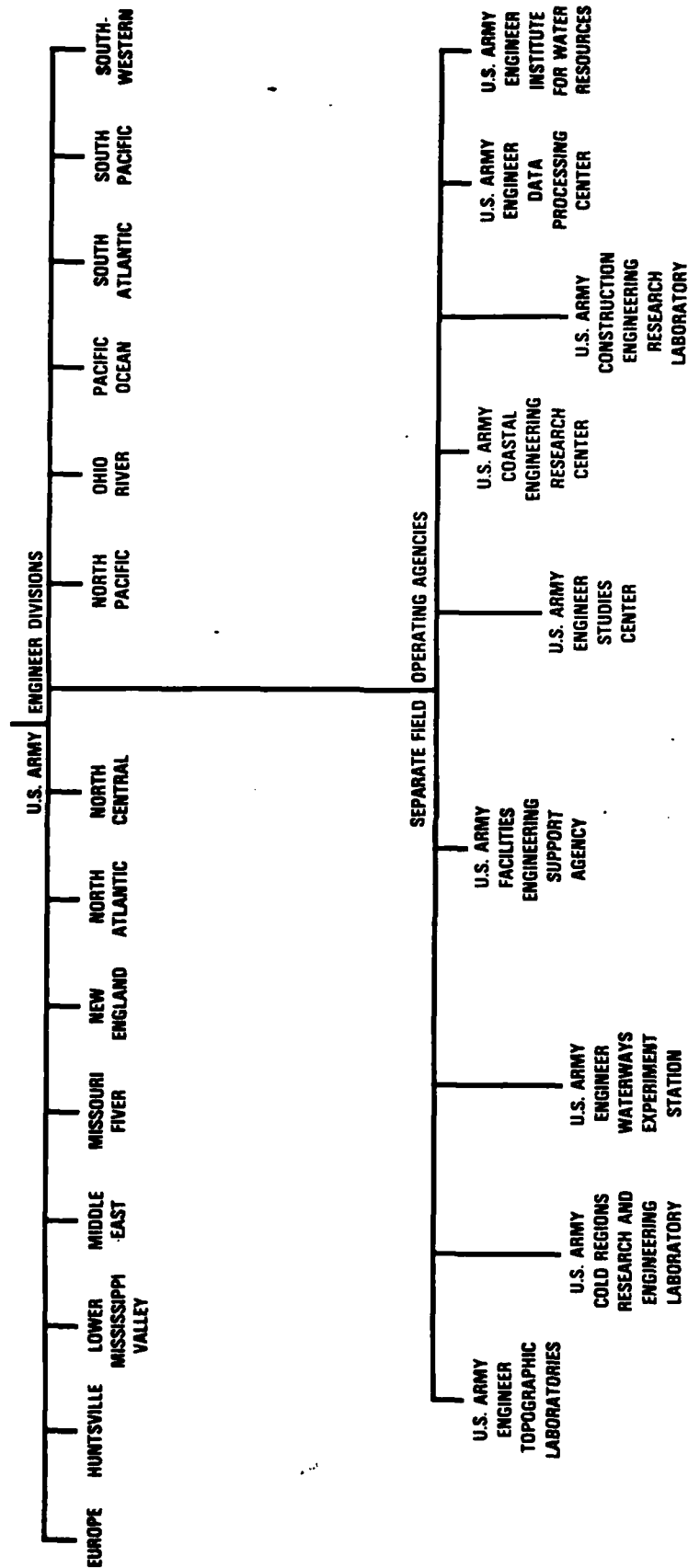
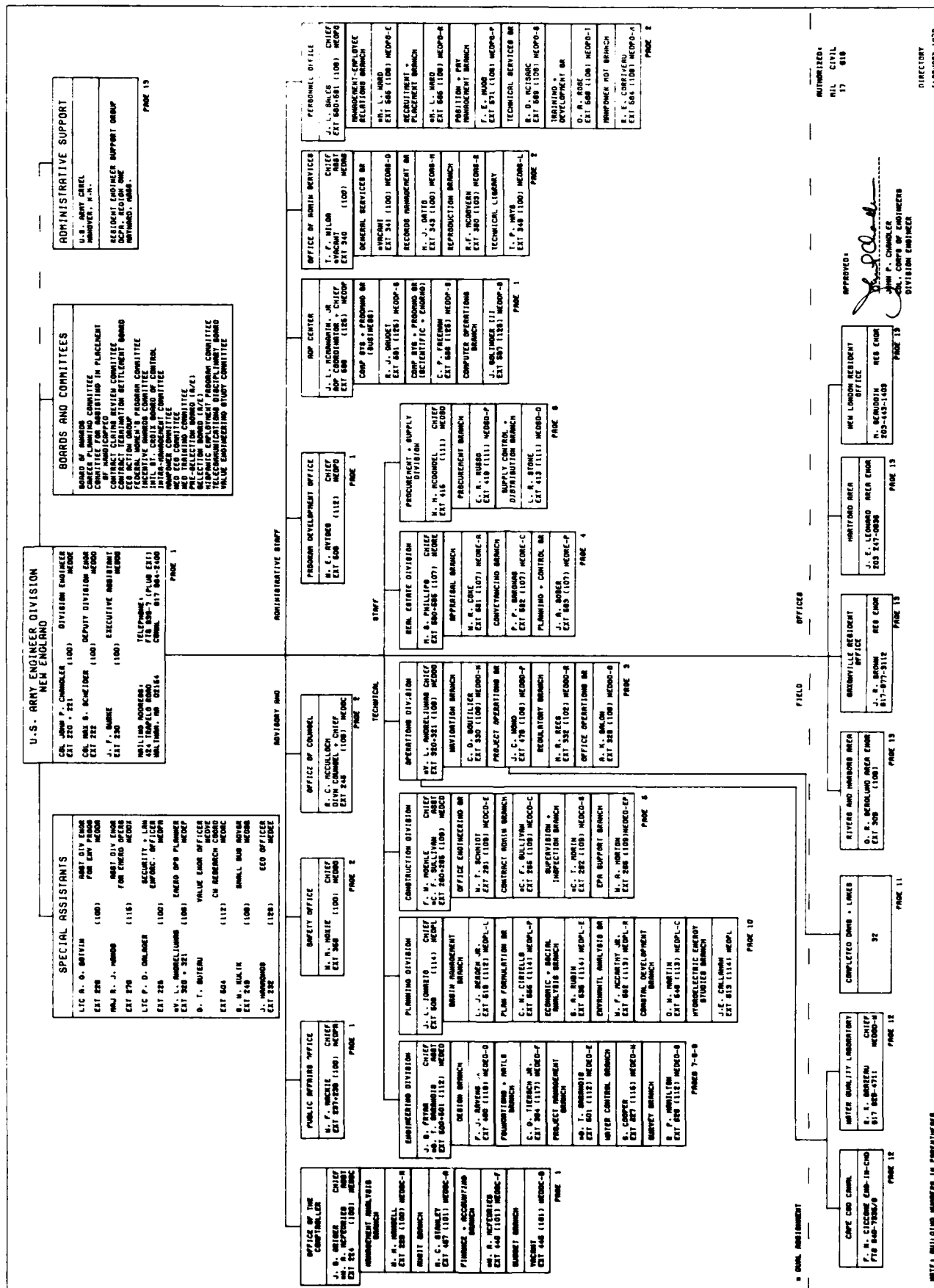


Figure 1.3



is an operating division, by that it is meant that it has no districts. If NED were not an operating division, the districts would appear where the Field Offices now appear on the organizational chart.

Theoretically, the chain of command flows from the Chief of Engineers, to the Division Engineers, to the District Engineers and ends with the Area/Resident Engineer. In practice the Area/Resident Engineer reports to the Chief of the Construction Division of the District and then through the chain.

Contracting authority follows this chain with the authority decreasing as you go down the chain. The amount of authority given at each level is a matter of discretion and therefore is not uniform.

#### 1.2 Naval Facilities Engineering Command (NAVFAC) General Organization

NAVFAC is responsible and authorized to perform design, planning, development, procurement, construction, alteration, repair and maintenance at all shore activities of the United States Navy for public works and public utilities. The term public works is defined as all the buildings, structures and fixed equipment located at a naval shore activity. NAVFAC,

like the Corps, may be directed to administer contracts for other Governmental, both foreign and domestic, agencies. Its major responsibility lies with the execution of the Military Construction Program and, unlike the Corps, has little or no opportunity to administer contracts which directly impact the general public. Figure 1.4 depicts the general organization of NAVFAC and Appendix A4 shows the Headquarters organization chart.

The commander of NAVFAC is a Rear Admiral and is designated by the Secretary of the Navy as the Contracting Officer for all NAVFAC contracts. He, in turn, delegates certain contract authority to certain subordinates within NAVFAC and its field organizations. Each is known as an Officer in Charge of Construction (OICC). The commanders of the six Engineering Field Divisions (EFD) are Captains and designated as OICCs and have authority to award most NAVFAC contracts without prior approval of NAVFAC Headquarters. Appendix A5 shows the typical organization chart for an EFD. Contractual authority is further delegated to certain Civil Engineer Corps officers located at established naval activities. The appointee has the authority stipulated in his appointing letter.<sup>5</sup> Figure 1.5 shows the contractual chain within NAVFAC.



Figure 1.4

# NAVAL FACILITIES ENGINEERING COMMAND

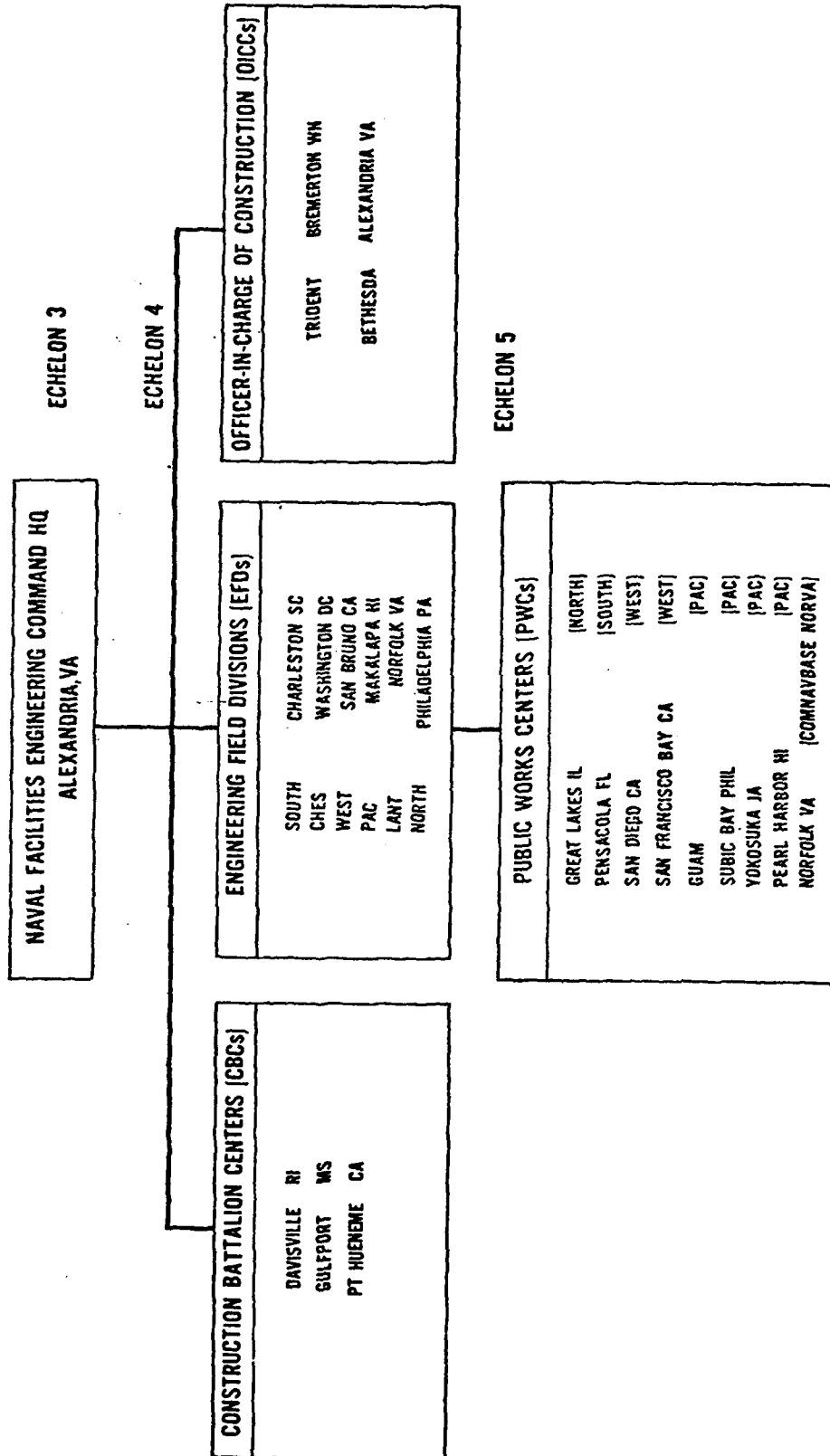
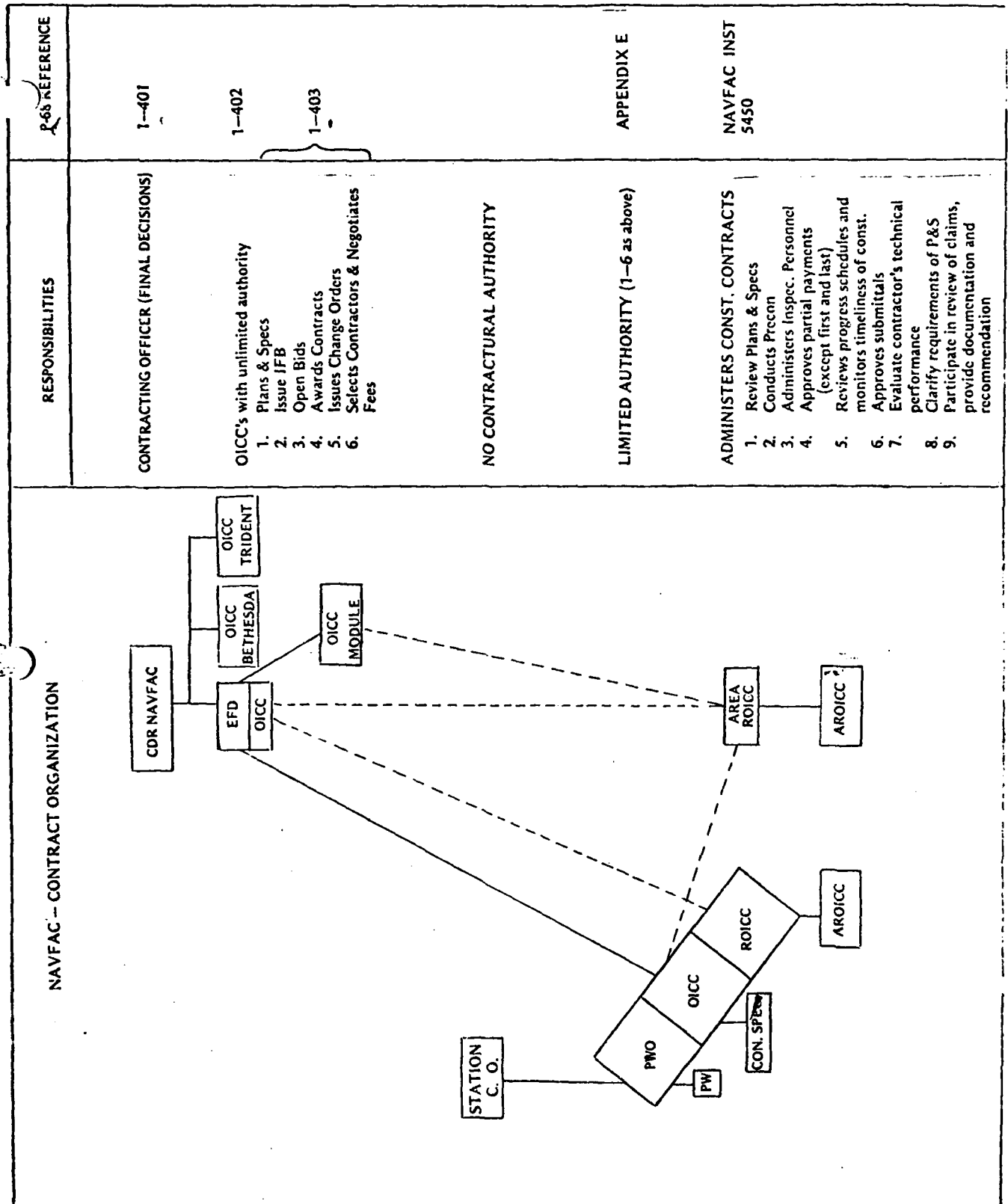


Figure 1.5



Contract administration is the function of the Resident Officer in Charge of Construction (ROICC). The ROICC is appointed by the OICC and in some cases, the OICC will also be the ROICC. This organization is more fully discussed in Chapter 2, "Field Organization."

### 1.3 US Postal Service General Organization

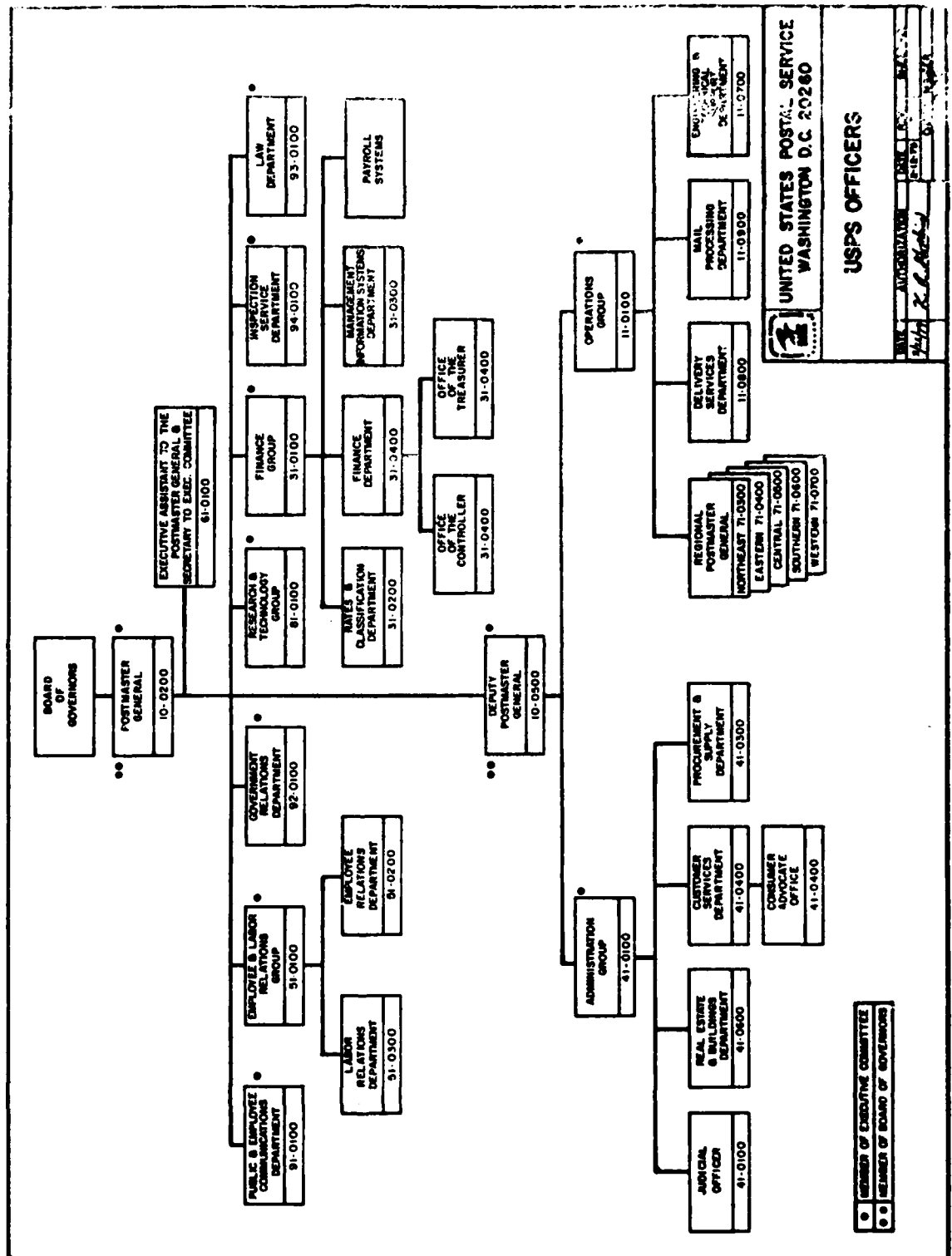
The United States Postal Service (USPS) was established as an independent establishment within the executive branch of the Government under the provisions of the Postal Reorganization Act of August 12, 1970.<sup>6</sup> The General Organization chart is shown in Fig. 1.6.

The Board of Governor's consists of eleven members, nine appointed by the President, the Postmaster General and the Deputy Postmaster General. The Board of Governor's directs the exercise of the powers of the Postal Service; reviews the practices and policies of the Postal Service; and directs and controls its expenditures. The Postmaster General is the chief executive officer of the Postal Service and is responsible for its overall operation.

The contractual authority flow for construction contracts follows the following chain:

1. Postmaster General

Figure 1.6



2. Deputy Postmaster General
3. Senior Assistant Postmaster General, Operations
4. Regional Postmaster General
5. Regional Director, Real Estate and Buildings  
Department
6. Managers, Field Real Estate and Buildings Offices  
(FREBO)

The Regional Postmaster General is the level at which decisions on funding and constructing new facilities are made, based on information developed by his Real Estate and Buildings Department. Contract award and administration is conducted by the Managers of the FREBOs, and as such, the Manager has Contracting Officer authority.

The functions and responsibilities of the FREBO is discussed in Chapter 2.

## Chapter 2

### Field Organization

"Field Organization," for the purpose of this thesis, is defined as that organization which has direct responsibility for the day-to-day administration of a Government construction contract in the field and office.

#### 2.1 Corps of Engineers Field Organization

The Corps administers construction contracts in one of two manners:

1. On-Site Resident Engineer
2. Project Engineer from an Area Engineer Office

The Area Engineer Office is a branch of the District Office and is responsible for the supervision, inspection and administration of all contracted construction activities within his assigned geographic area. Depending upon the desires of the District Engineer, the Area Engineer may have Resident Engineers reporting to him, or the Resident Engineer may operate independent of the Area Engineer and report directly to the District Engineer.

The District Engineer, as the Contracting Officer for most Corps projects, may delegate either "Resident Contracting

Officer" (RCO) or "Contracting Officer's Representative" (COR) authority to the Area or Resident Engineer depending on the circumstances. RCO authority is a limited authority and usually authorizes the appointee to:

1. Sign Modification Orders under \$25,000
2. Administer contracts
3. Interpret contracts

COR authority limits the individual to:

1. Administering contracts
2. Interpreting contracts

The Area/Resident Engineer is responsible for the satisfactory performance of all activities within the general scope of the authority assigned to him, which include the following:

1. Enforcing strict compliance with all provisions of all contracts under his supervision,
2. Reasonably interpreting plans and specifications,
3. Insuring project progress and completion in a timely manner,
4. Insuring that all materials and equipment installed in the construction have been approved.
5. Safeguarding the interests of the Government at all times.
6. Property Accountability,

7. Managing an economical and efficient office,
8. Recommending improvements in work which are not in the scope of the Area/Resident Engineer's authority to correct, but which will result in a better job or in a savings to the Government.
9. Timely anticipation of personnel needs for adequate inspection coverage,
10. Training personnel to increase their skills,
11. Prompt handling of all correspondence,
12. Thorough knowledge of all pertinent regulations,
13. Keeping accurate records and preparing reports as required,
14. Complying with security requirements,
15. Maintaining acceptable safety standards,
16. Maintaining good public relations,
17. Negotiations of modifications within delegated authority,<sup>7</sup>
18. Establish and maintain impersonal, businesslike and cooperative relations with the contractors and their representatives.

Authority Area/Resident Engineers never have include:

1. Waiving contract provisions,
2. Making out of scope changes,



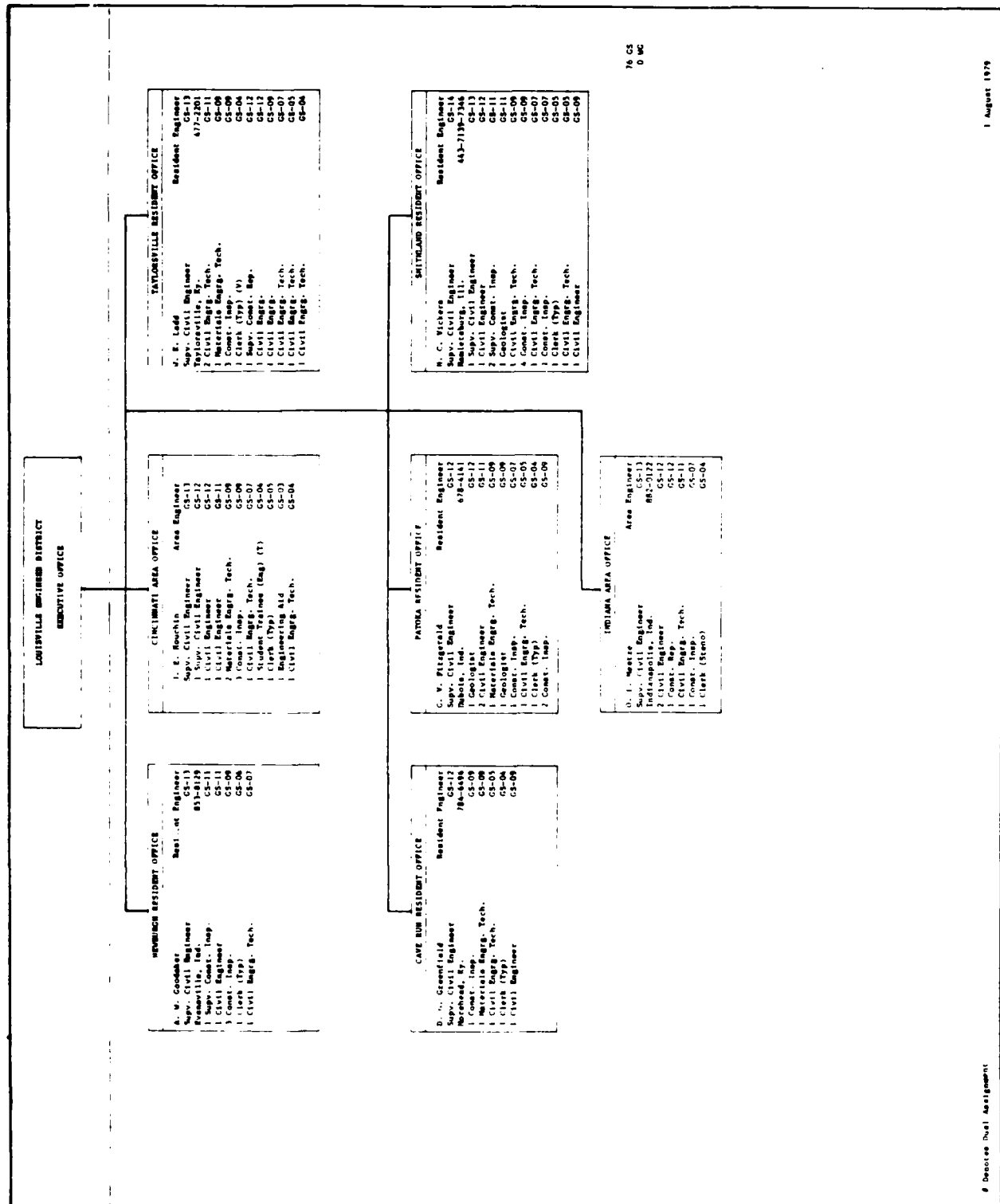
3. Dictating the contractor's method of operation,
4. Allowing the contractor to perform work in an unsafe manner,
5. Accepting work not meeting the contract requirements.<sup>8</sup>

The decision of establishing a Resident Engineer office or assigning the project to an Area Engineer office is made by the District Engineer and is based on the time involved and the complexity of the project. There are no hard and fast guidelines. The manning levels of these offices depend on the monetary value and complexity of the contract. As the ongoing workload fluctuates, so do the manning levels. Figure 2.1 shows the organizational manning charts for several offices.

Technical support for the field organizations is supplied by the Engineering Division and is coordinated through the Supervision and Inspection Branch of the Construction Division. Occasionally the services of an A/E firm are contracted for, for the technical support in the inspection of construction where the Corps lacks the technical expertise to correctly inspect the work.

## 2.2 NAVFAC Field Organization

Figure 2.1



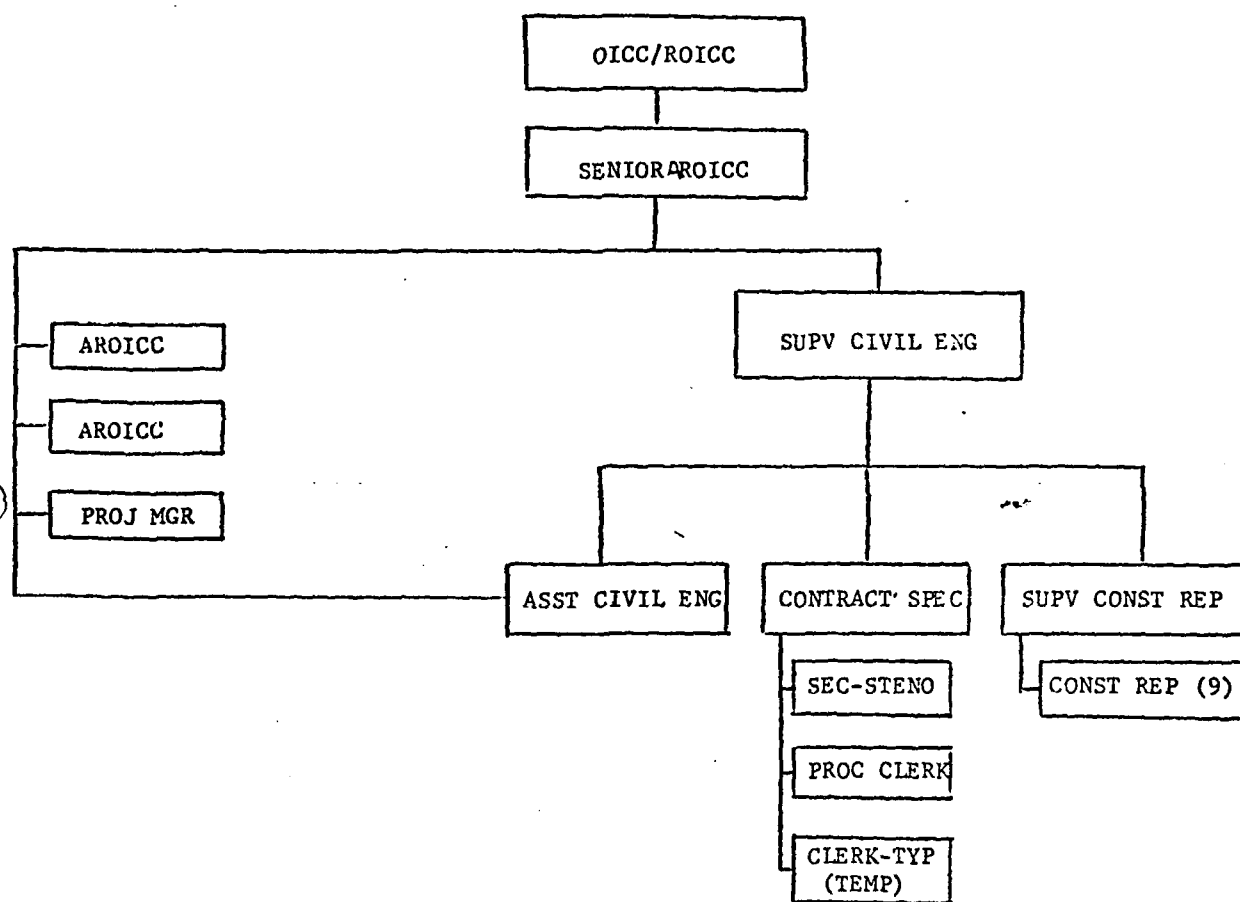
The field organization for NAVFAC projects is the ROICC organization. The organization and functions of the ROICC organization parallels that of the Corps' Area Engineer Office. The fact that practically all of the construction takes place within the confines of the naval shore activity, and the relatively low monetary value of individual contracts, indicates the lack of need to establish on-site, Resident Engineer type organizations. The organizational and manning chart for the OICC/ROICC New London office is shown in Fig. 2.2. The OICC/ROICC is also the Public Works Officer for the Submarine Base, therefore, the Senior Assistant Resident Officer in Charge of Construction (SAROICC) performs the day-to-day management of the office. Administration of contracts are the responsibility of the Project Manager and the AROICCs. The difference being Project Managers are civilian employees and AROICCs are officers of the Civil Engineer Corps.

ROICC offices are functionally organized to perform in two principal areas; Administration and Construction. The Administration functions performed include;

1. Assembling the contract records,
2. Reviewing and validating contractor's submissions,
3. Issuing of Invitations to Bid,
4. Receipt and analysis of bids,

Figure 2.2

RESIDENT OFFICER IN CHARGE OF CONSTRUCTION - NEW LONDON  
ORGANIZATION



5. Award of contracts,
6. Review of contractor's payment requests,
7. Review of claims,
8. Maintaining financial and personnel records,
9. Providing clerical and stenographic services.<sup>9</sup>

Construction functions include:

1. Interpreting the contract specifications,
2. Evaluating contractor technical and material submissions,
3. Proposing and negotiating change orders,
4. Providing technical and engineering support to the ROICC field inspection force,
5. Day-to-day surveillance of the contractor's performance to ensure compliance with the plans and specifications.<sup>10</sup>

Quality assurance activities are the responsibility of the assigned Construction Representative (CR). Usually one CR is assigned per contract with the CR being responsible for several contracts at once.

Design and technical services beyond the capability of the ROICC staff are provided by one of three sources:

1. EFD staff
2. A/E firm under contract to NAVFAC

### 3. Public Works Staff Office

#### 2.3 USPS Field Organization

The field organization for the USPS is the Field Real Estate and Building Office (FREBO). The FREBO is headed by a manager who has Contracting Officer authority for contracts up to \$3 million dollars. For contracts over this amount, Contracting Officer authority lies with the Regional Postmaster General. The responsibilities of a FREBO include:

1. Executing the regional facilities program within the area served by the FREBO, which includes helping develop functional design specifications, providing technical assistance to an average of five district offices, and investigating and evaluating sites for proposed postal facilities,
2. Purchasing leasing, disposing of and managing real estate and space within the jurisdiction of the FREBO,
3. Negotiating and awarding professional service, construction, acquisition, and lease contracts for projects within the jurisdiction of the FREBO,
4. Directing contract functions including:
  - a) A/E selection and contract administration

- b) Design production and review
  - c) Cost Engineering
  - d) Bid document preparation and distribution
  - e) Advertising contracts
  - f) Bid evaluation and contract award
  - g) Construction contract administration
  - h) Lease contract administration
  - i) Final acceptance
5. Assisting in occupancy coordination of regional projects within its jurisdiction,
6. Reviewing postal facility plans and specifications provided by lessors under contract to the USPS, and coordinating within its area of jurisdiction all real estate and building matters with other interested parties in the USPS.<sup>11</sup>

The FREBO is divided into two Branches; Design and Construction Branch, and Real Estate Branch. The Design and Construction Branch is further divided into the Design Section and the Construction Section. Within the Construction Section are Project Coordinators who have the responsibility of monitoring the projects and performing contract administration functions. He serves as the liaison between the Contracting Officer, USPS A/E and the Prime Contractor.

The USPS usually contracts with an A/E for the design, inspection and day-to-day supervision of a construction project. USPS retains no in-house inspection personnel. The A/E is the Contracting Officer's representative with the authority to enforce all contract provisions. He is the contractor's daily point of contact and all routine communications are routed through him.

In contracting for A/E services, interested A/Es must submit a Standard Form 254 which details their resources and experience. Based on their purported qualifications three USPS personnel from the FREBO conduct interviews and evaluations at the A/E's home office. In the New England area, Fig. 2.3 (NEFO Form 3) is used by the USPS personnel as a checklist. Mr. Edward Kearney Jr., Chief, Construction Section, New England FREBO, related that generally the USPS prefers to utilize A/Es who are in the proximate area of the proposed project. In the past, the policy when awarding A/E contracts, was to spread the work around to a variety of A/Es. Mr. Kearney stated that this policy has recently changed and that the USPS now wants to use only A/Es who have worked for the USPS in the past and whose performance was outstanding. Fees for A/Es are presently fixed at; for design only, not more than 6% of the estimated construction cost; for checking



## A/E INTERVIEW FOR PROFESSIONAL SERVICES

Figure 2.3

PROJECT:

LOCATION:

DATE:

FIRM:

ADDRESS:

Arch

Struc

Civil

Mech

Elec

Est

Spec

CONSULTANTS:

		1	2	3		PO	IND	COMMENTS
EXPERIENCE	DESIGN				Architect	/		
					Civil/Structural Eng.	/		
					Mechanical Eng.	/		
					Electrical Eng.	/		
					Drawings/Specifications	/		
	CONSTRUCTION				Architect	/		
					Engineers	/		
					Shop Drawings	/		
					Construction Supervision	/		
					Construction Admin.*	/		
INTEREST				Resident Engineer	/			
				Attitude	/			
				Preparation	/			
				Initiative	/			
MANAGEMENT				Workload **	/			
				Planning/Scheduling	/			
				Cost Control/Estimating	/			
				Staffing	/			
				Organization	/			
POTENTIAL				CPM	/			
				Architectural (Design)	/			
				Engineering (Design)	/			
				Shop Drawings	/			
				Construction Supervision	/			
OFFICE				Construction Admin. *	/			
				Resident Engineer	/			
				Space	/			
TOTALS				Organization	/			
				Housekeeping	/			
				REMARKS/OPINION (7)				

## INSTRUCTIONS TO EVALUATOR:

1. Make all entries in ink, initial all changes, & sign at bottom when complete.
2. Point System: (1) below average (2) average (3) above average; except as noted.
3. Maximum points attainable for this project \_\_\_\_\_.
4. Do not total points until after all firms have been interviewed.  
Remarks/Opinion- to be completed after all firms have been interviewed, give reasons.

\* Const. Admin. - includes Payments, Modifications, Field Reports, &amp; As-built Drawings.

\*\* Point System this item - (1) Heavy (2) Medium (3) Light

BY:

30

TOTAL POINTS

shop drawings and supervision of construction, not more than 4.5% of the estimated cost of construction at the time the A/E contract is negotiated. These fees may be exceeded only with the express written consent of the Assistant Postmaster General, Real Estate and Buildings.<sup>12</sup>

Mr. Theodore Widman, Supervisor, Design and Construction Branch, New England FREBO, stated that he preferred contracting with a company for a turnkey type of contract. He stated that he was allowed to do this once, with a resultant savings of approximately \$10 per square foot. He stated that he did not know why this type of construction contract was not being let as policy.

## Chapter 3

### Preconstruction Conference

Government construction projects are conducted within a framework of laws and regulations. For the first time Governmental contractor, the maze of laws and regulations may be overwhelming. He may be so overwhelmed that he may soon find himself with cost overruns, time delays or facing contract termination. In an attempt to bring the contractor onto the Government's "team" as quickly and with as little confusion as possible, the Government agencies schedule preconstruction conferences as soon as practicable after the Notice of Award is issued. These conferences are aimed at educating the contractor to the Government's system prior to the actual start of construction.

#### 3.1 Corps of Engineers Preconstruction Conference

The Corps conducts the preconstruction conference to accomplish three objectives:

1. Establish a good working relationship between the Corps' and contractor personnel,
2. To clarify the major contract provisions with respect to expected contractor performance and

Government procedures,

3. To delineate the lines of authority and communication for contractual, administrative and construction matters.<sup>13</sup>

By far, the most important objective is the second.

Mr. Richard Carlson, Acting Chief, Supervision and Inspection Branch, Construction Division, NED, stated that in his years of experience, the major problems have occurred because the contractors have just not read the contract provisions and specifications in sufficient detail. He stated that the dialogue at the conference is not one way in nature, but rather two way discussion is encouraged to eliminate any doubts or misconceptions the contractor may have.

The Corps' participants at the conference include:

1. Resident Engineer
2. Construction Division Representative
3. Engineering Division Representative
4. Procurement and Supply Branch Representative
5. Labor Relations Specialist
6. Safety Office Representative

The contractor is encouraged to bring all his key personnel as well as representatives of his major subcontractors and suppliers.

The Corps attempts to encompass all aspects of the project into the conference. Prior to the meeting, a review of the project is made by the Engineering and Construction Divisions to determine items of critical, sensitive, delaying or difficult nature which will be emphasized at the conference. In an attempt to keep the meeting within a reasonable time frame, limitations are placed on the presenters. If the contractor desires clarification, extra time will be allotted or the contractor may speak separately with the presenter. Appendix B1 contains a sample agenda for a preconstruction conference.

### 3.2 NAVFAC Preconstruction Conference

NAVFAC's stated objectives of the preconstruction conference are:

1. To acquaint the contractor with the numerous details of administration required in the conduct of a contract,
2. To coordinate the contractor's construction plans with the using authority and other interested parties.<sup>14</sup>

It is interesting to note that where the Corps includes technical as well as administrative questions,

NAVFAC discusses only the procedural matters and not the technical aspects of the contract. Technical questions are resolved at a later date. The conference is chaired by the Project Manager/AROICC who has responsibility for the project. Other NAVFAC participants may include:

1. Supervisory Construction Representative
2. Assigned Construction Representative
3. Fire Chief
4. Security Officer
5. Safety Officer
6. Public Works Representative
7. Design A/E

The contractor is encouraged to bring his job superintendent, key office personnel, and representatives of each major subcontractor. Appendix B2 contains the agenda used by NAVFAC when conducting conferences. It is also used as a record of the proceedings and after the conference is typed and forwarded to the contractor.

LCDR George Holland, SAROICC New London, also includes in the conference a packet for the contractor which contains pertinent forms and a guide for completing contract administrative requirements. This is found in Appendix B3. He felt that by limiting the discussion to administrative

matters, the meeting's length is tolerable and more conducive to establishing a healthy atmosphere.

### 3.3 USPS Preconstruction Conference

The objectives of the USPS preconstruction conference are two fold:

1. Acquaint all parties involved in the construction project,
2. Review the policies and procedures to be followed during the project.<sup>15</sup>

Again, as with NAVFAC, no discussion of the technical specifications is included in the conference. Mr. Kearney stated that technical questions are not discussed because it is assumed that any competent contractor would have resolved any questions he had prior to submitting a bid. The conference is chaired by the USPS Project Coordinator with the USPS A/E as the only other USPS representative. As with the other Governmental agencies, the contractor is encouraged to bring key personnel and representatives of his major subcontractors.

Appendix B4 contains the agenda used by the New England FREBO at preconstruction conferences.

## Chapter 4

### Safety

Safety is an aspect of construction management which only recently has been researched. This research has started to dispel the common misconception that to run a job using safety procedures would incur added expense and result in lost productivity. In an article by Jimmie Hinze and John Pannullo in the June 1978 Journal of the Construction Division titled "Safety: Functional Job Control," the authors found that accidents resulted in lower job productivity and increased costs. They also found that close job control and management emphasis resulted in good safety records.

#### 4.1 Corps of Engineers Safety Program

In an interview with Mr. Wilbur Hoxie, Chief, Safety Office, NED, he related that the incidence of reportable accidents for the construction industry as a whole were 3 to 5 times higher than on Corps projects.

The Corps has maintained that "A well-planned and conscientiously-applied program for controlling conditions and personal acts conducive to accidents is essential to efficient, economical, high quality construction."<sup>16</sup> The



"Accident Prevention" Clause of the General Provisions obligates the contractor to conduct his operations, to include his subcontractors' operations, in accordance with:

1. The applicable provisions of the General Safety Requirements, EM 385-1-1,
2. Safety measures included in the Special and Technical Provisions of the contract,
3. Other applicable safety standards and codes.

For many contractors, this is their first exposure to a contract where a required safety program is as much a part of the contractual obligations as are the other contract provisions.

The Corps requires that the contractor, no matter what size project, to analyze the project from a safety point of view and submit a detailed safety plan for review prior to commencing work. The written plan enables the Corps to:

1. Start the contractor considering safety
2. Evaluate the contractor's attitude and towards, and concepts of, safety
3. Evaluate what the contractor believes his contractual obligations are.

The importance of the plan is not in what it contains, but rather in what is missing.<sup>17</sup> A safety meeting is scheduled

prior to work commencing for a discussion of the contractor's safety plan. If the contractor has worked for the Corps before, and has a satisfactory safety record, the meeting is relatively short. On the other hand, if the contractor has done work for the Corps before and has a poor safety record, or if the contractor is new, the meeting will cover the safety program requirements in great detail.

The following topics are included in the discussion of the safety program:

1. Purpose and advantages of the safety program
2. A review of the "Accident Prevention" clause of the contract and safety provisions contained in the contract specifications
3. Installation requirements which must be complied with
4. Discussion of the contractor's proposed safety plan, emphasizing omissions and deficiencies.

#### 4.1.1 Contractor Safety Plans

The Corps, when evaluating a Contractor's safety plan, looks for the development of the following items:

1. A safety policy statement which indicates the

contractor's commitment to safety, to include:

- a) Minimum job safety requirements for each individual

- b) Safety training of employees

- c) Internal inspection procedures

- d) Requirement to promptly report all accidents

2. Anticipated hazards and the contractor's proposed safeguards and operating methods for each feature of work hazardous in nature. Included are job site layouts showing access and haul roads, storage areas, equipment positioning, parking areas, locations of utility lines, etc.

3. Delegating authority and assigning specific safety responsibilities to the job superintendent and job foremen. These responsibilities include:

- a) Familiarizing themselves with the job safety plan and applicable safety regulations

- b) Inspecting the work and observing the workmen to ensure that the work is proceeding according to planned procedures

- c) Promptly correcting unsafe acts by employees or any unsafe working conditions.

4. The Corps has compiled a list of items which must be included in the safety plan as a minimum. The minimum requirements include:
- a) Measures which insure acceptable housekeeping standards from the start to the finish of the job. This includes clean-up and disposal of debris, the storage of materials, and the elimination of tripping and falling hazards
  - b) Provisions for necessary personnel protective equipment and procedures to ensure that the required items are used
  - c) Fire prevention plans, to include equipment to be used and the training of employees
  - d) Provisions for first-aid medical facilities and life saving equipment as required by the Corps of Engineers General Safety Requirements
  - e) Plans for protection of the public and business invitees to the job site
  - f) Identification of specific operations that must be performed in accordance with special safety requirements and standards.
5. Plans for coordinating activities among contractors to assure that operations considered

incompatible from a safety viewpoint are not conducted concurrently

6. Plans for erection, inspection and maintenance of guards, handrails, barricades, nets, scaffolds, ladders, safety lines, platforms, formwork, shoring and warning signs
7. Plans for shoring, sheeting, or sloping excavations, including lighting and barricading excavations that cross or parallel roads, which constitute hazards to pedestrians or vehicular traffic
8. Plans for training and using signalmen
9. Determinations who will be permitted to operate machinery and equipment
10. Plans for inspecting, testing and maintaining equipment, tools, electrical systems and pressure systems
11. Plans for sanitation and sanitation facilities
12. Plans for ensuring that employees are physically qualified for their assigned duties
13. Plans for controlling hazards associated with noise, dust, ventilation, heating and lighting
14. Plans for complying with the requirements for

roll over protection, back-up alarms and emergency brakes

15. Plans for controlling blasting operations, radioactive material or equipment containing radioactive material
16. Plans for safe clearance procedures
17. Traffic control plans (movement, signs, lights, flagmen, etc.) at critical locations
18. Identification of power lines in areas where cranes or other similar equipment are scheduled to work and plans for; relocating the lines, taking the lines out of service temporarily, or the use of short boom equipment which could not contact the lines.<sup>18</sup>

In the case of a large construction concern, or a contractor who has worked for the Corps previously, it is usually a matter of submitting the existing company safety plan with necessary job related modifications.<sup>19</sup> Obviously this is not the case with the first time contractor. This contractor must generate a complete new safety plan. Mr. Hoxie realized that this could prove a costly, time consuming task to small contractors. He therefore compiled a detailed sample safety plan which he gives such contractors who then may

adopt the plan with necessary modifications. A copy of the plan is contained in Appendix C1. This appears to defeat the purpose of requiring the contractor to seriously consider the safety aspects of the project. Apparently this is not the case as the safety statistics indicate the incidence of accidents is still below the industry average.<sup>20</sup>

#### 4.1.2 Employee Safety Meetings and Equipment Inspections

A part of employee safety training occurs during weekly safety meetings. These meetings are commonly called "lunch box" meetings for they are usually held for 5 to 10 minutes during the lunch hour. These meetings are usually conducted by a foreman or supervisor and cover a wide range of safety related subjects. Corps representatives are encouraged to attend as an indication of the Corps' concern for safety.<sup>21</sup> A weekly report is sent to the Resident Engineer by the contractor indicating the date and time of the meeting, the number attending and the subject matter discussed. A sample of this report is found in Appendix C2, along with suggested topics.

The Corps also requires that all heavy equipment be inspected by a competent mechanic prior to that piece of equipment being placed into operation. The checklist used by the

mechanic and the Corps representative is located in Appendix C3. In addition to the heavy equipment, the slings used for lifting and loading must also be inspected prior to use on each shift.

#### 4.1.3 Corps Resident Engineer Safety Responsibility And Accident Reporting

The Resident Engineer's safety responsibilities are to ensure that the job safety standards are continually being maintained. Corps personnel obtain safety training through participation in Corps-sponsored safety courses, both resident courses and correspondence courses. In theory, the inspectors are to examine the work scheduled for that day and anticipate the hazards associated with the work and familiarize themselves with the proper procedures for conducting the work. With this knowledge, the inspector can monitor the work as it progresses and affect compliance with the safety standards. In practice, the inspector, through his years of experience, can go to the work site and by simply observing the progress, can monitor the safety program.<sup>22</sup>

Minor safety violations are brought to the attention of the contractor's safety representative, usually the foreman. The Corps' inspectors are given the authority to order



the work to be stopped when he observes a safety violation which may result in serious bodily injury or property damage. In the cases where the contractor is slow in making safety corrections or simply refuses to correct violations, the Resident Engineer may order the contractor to stop work under the provisions of the "Accident Prevention" clause of the contract. This option is rarely used and is used only after all attempts to bring compliance have failed.<sup>23</sup>

Contractors are required to report all accidents resulting in fatal, permanent total, permanent partial, or temporary total disabling injuries and/or damage to property, materials, supplies and equipment in the amount of \$100 or more.<sup>24</sup> The contractor fills out an accident report and forwards it to the Resident Engineer who reviews the report for; correctness, completeness, and ensures that the corrective action stated is implemented and will prevent future similar occurrences. The reports are then forwarded to the District Office for analysis and compilation. The contractor must also report the accident to OSHA officials.

4.1.4 Interview with Mr. Wilbur Hoxie, Chief, Safety Office, New England Division Corps of Engineers

Mr. Hoxie emphatically stated that he believed safety

received too little emphasis in the construction industry as a whole. He cited the disparity between accident incidence rates on Corps projects and the construction industry as a whole as proof. He felt that the reason for the superior safety record of the Corps was due to the genuine emphasis and concern placed on the safety program by the entire Corps organization, from the Chief of Engineers to the inspectors on-site. Mr. Hoxie related that he usually encounters resistance from the contractors when they are first apprised of the safety requirements, but after explanation of the Corps policies and beliefs, the contractors are "caught up" in the spirit of the program. Mr. Hoxie did state however that when delays are incurred, contractors still believe that they can make up time by letting the safety standards slip. He felt that only through education can this misconception be rectified.

Mr. Hoxie was asked whether the statistics are reliable, or are all reportable accidents actually being reported through the system. He replied that the Corps does not condone failure to report accidents. He stated that there are adequate checks to ensure all accidents are reported, i.e., interviews with the workmen, the presence of Corps inspectors and his personal visits to the worksites. He said it

was unlikely that an accident would go unnoticed or unreported.

Mr. Hoxie was asked how OSHA fit into the Corps Safety Program. He replied that contractors must comply with the OSHA standards and that OSHA inspectors may inspect any Corps project they so please. He stated that in his experience, OSHA and the Corps were mutually supportive. Again, he attributed this to the excellent demonstrated safety record of the Corps.

#### 4.2 NAVFAC Safety Program

NAVFAC contracts contain the same "Accident Prevention" clause as does Corps of Engineer contracts. NAVFAC has expressed the same strong commitment to safety as the Corps, but varies somewhat in its requirements.

NAVFAC requires a written safety plan only if the contract is for more than 6 months in duration or is described as of hazardous nature in the Invitation to Bid. If a written plan is not required, the contractor's responsibilities are outlined at the preconstruction conference.

During an interview with LCDR George Holland, USN, CED, SAROICC, New London Submarine Base, the Corps policy of, for all practical purposes, handing a safety plan to the contractor was discussed. LCDR Holland disagreed with the practice

as being self-defeating and expressed his preference that the job superintendent write the safety plan. He felt that this ensured that the job superintendent fully understood the safety problems of the project and was aware as to the methods to make the job site a safe one. When asked if any guidance was given the contractor prior to his submitting the safety plan, LCDR Holland stated that there was. Appendix C4 contains a "Contractor's Fire Prevention Guide" and "Common Safety Violations" which are given to the contractor. When questioned as to the similarity between the guides and a safety plan, LCDR Holland stated that he did not see it that way. The guides, in his opinion, is by no stretch of the imagination sufficient in detail to even approximate an acceptable safety plan. He stated that the purpose of the guides were to orient the contractor towards safety planning. Appendix C5 contains the guidelines used by NAVFAC when evaluating a contractor's safety plan.

A safety meeting is scheduled with the contractor after he has submitted his proposed plan and it has been reviewed. The duration of the meeting is dependent upon the contractor's prior experience with NAVFAC and his safety record. The meeting reviews the contractor's obligations, the installations relevant safety policies and the contractor's safety plan.

Safety plans are accepted and not approved. This is an attempt to limit NAVFAC's liability as a result of accidents.

#### 4.2.1 Safety Meetings and Equipment Inspection

NAVFAC requires that weekly employee meetings on safety be conducted, in the same manner that the Corps requires. The only requirement on the subject matter is that it be pertinent to the work at hand. NAVFAC encourages its Construction Representatives (CR) to attend the meetings and requires their attendance when injuries occur on the project. Reporting is not as formal as with the Corps and the meeting need only be mentioned on the "Inspector's Daily Report" and the "Daily Report to Inspector."

The inspection of equipment is required prior to being placed in use. NAVFAC does not require a joint inspection nor does it have a preprinted format for use. The contractor must provide a letter statement for each piece of weight handling equipment before it is brought on the job-site with the following information:

1. Identification of the equipment
2. Date of inspection
3. Certificate of safe operating condition
4. Name, title and signature of the qualified

individual making the inspection.

#### 4.2.2 ROICC Safety Responsibility and Accident Reporting

ROICC safety responsibilities are to administer and enforce the safety provisions as specified in the contract, and maintain a competent inspection force with regard to safety. LCDR Holland related that most safety training is on-the-job or by correspondence course. Rarely were resident safety courses offered to his personnel. He felt that whereas the resident courses would be nice, the correspondence courses were more than adequate as a means of training.

For daily safety inspections, NAVFAC has compiled a list of items found on virtually every construction site and should be inspected. The list is located in Appendix C6. Minor safety violations are reported to the job foremen for corrective action. In cases where there is imminent danger if the situation is allowed to continue, the inspector may order a work stoppage until the violation is corrected. Again, if the contractor is slow in complying or refuses to take corrective action, the Contracting Officer may order all work to stop until corrective action is taken and the contractor may not submit a claim for time extensions or excess costs.

Accidents are reported to NAVFAC for the same conditions as stated for the Corps. To lessen the administrative burden on the contractor, NAVFAC requires that the contractor need only submit a copy of the report required by OSHA. The ROICC reviews the report for corrective action and forwards a feeder report to the EFD having authority.

As with Corps contractors, NAVFAC contractors must also comply with all OSHA requirements. LCDR Holland indicated that OSHA rarely inspected any work at the base. The OSHA inspectors may inspect any project they wish with the exception of projects within security areas or where State OSHA officials seek to perform safety inspections in areas where the United States holds exclusive federal jurisdiction.<sup>25</sup>

#### 4.3 USPS Safety Program

The safety program of the USPS is fairly straightforward. It requires the contractor to comply with the applicable provisions of the OSH Act and to report accidents when necessary using standard OSHA forms. The A/E monitors the contractor's work for safety violations and will discuss them with the contractor. The A/E's time on the job is usually limited, therefore, the USPS policy is that compliance with the safety standards is the sole responsibility of the contractor.

Mr. Kearney stated that he felt that OSHA inspectors made regular visits to USPS projects. He explained that it was only a feeling because occasionally OSHA inspectors go to sites and don't announce their presence. The only times he finds out about inspections are when either the inspector identifies himself to the personnel on-site, or violations are found and reported. He stated that he felt the accident rate was "about average" on USPS projects.



## Chapter 5

### Labor Relations

The labor relations provisions of a Government contract may prove to be a thorn in the side of the contractor if he does not fully understand their ramifications. The requirements placed upon the contractor by the provisions, if not met, may result in contract termination, withholding of payments or court proceedings.

#### 5.1 Federal Labor Statutes and Regulations

The basis for the labor standards provisions contained in Government contracts are the following Federal Labor Statutes and Regulations:

1. Davis-Bacon Act
2. Contract Work Hours Standards Act
3. Copeland (Anti-kickback) Act
4. Part 3 and 5, Regulations of the Secretary of Labor, Title 29, Subtitle A, Code of Federal Regulations
5. Executive Order Number 11246

##### 5.1.1 Davis-Bacon Act

The Davis-Bacon Act is perhaps the most controversial. The provisions of the Davis-Bacon Act apply to contracts in excess of \$2,000 for the construction, alteration and/or repair of public buildings or public works. Basically, the Act requires that every Government construction contract contain certain specifications concerning the rate of wages to be paid to laborers and mechanics, the payment period, use of apprentices, and public posting of the applicable wage rates. The term "laborers and mechanics" refers to manual employees, i.e., construction laborers and tradescraftsmen, their helpers, apprentices, and working foremen.

#### 5.1.1.1 Wage Determinations

The minimum wage determinations are made by the Secretary of Labor for each section of the United States. These determinations are for the various classes of workers, and include not only the basic rate, but also the rates for fringe benefits. The wage rate determination decision is included in the contract specifications. In the case of a "union shop," the contractor pays the fringe benefits to the union; whereas if the worker is non-union, the benefits are paid directly to the worker.

A common violation of the Davis-Bacon Act, as related

during interviews with representatives of all three agencies, is the improper classification of workmen. The problem occurs when a workman performs work outside the scope of his job classification. For example, a laborer may also do some of the electrical installation. In this case, the contractor has two options: 1) He may pay the workman at the laborer's rate for the time he worked as a laborer and at the electrician's rate for the time he worked as an electrician, or 2) he may pay the man for his full time at the rate which is higher.

#### 5.1.1.2 Site of Work

The site of work is another aspect of the Act which causes confusion. The wage requirements of the Davis-Bacon Act contract provision applies to all mechanics and laborers employed or working directly upon the site of work. The "Solicitor of Labor" ruled that the site of work refers to the site of the contract work and includes not only the limited physical area where the structure or improvement is erected or built, but also certain other operations set up exclusively to furnish materials for the construction project.

The Corps of Engineers has established criteria in determining site of work:

1. Whether the facility is temporary and established

virtually exclusively to meet the needs of the contract rather than to serve the public generally

2. Whether the facility is located in the general area of the construction

3. Whether the facility is integrated with the construction needs.<sup>26</sup>

In discussing this subject with NAVFAC and USPS personnel they indicated that they also interpreted site of work using very similar criteria.

Examples of site of work may include job headquarters, storage yards, assembly yards, quarries, borrowpits, batch plants and similar facilities if they are set up for, and serve exclusively the particular construction operation, and are reasonably near the construction site. The employees working at these sites must be paid at the rates stipulated by the wage determination decision.

#### 5.1.1.3 Apprentices

Apprentices may be employed on government contracts but are employed under the "Apprentices" clause of the contract. The term "apprentices" means persons who are indentured and employed in a bonafide apprenticeship program and individually registered by the program sponsor with a "State Apprenticeship

Agency ... or ... with the Bureau of Apprenticeship and Training, United States Department of Labor."<sup>27</sup> The ratio of apprentices to journeymen on the job-site cannot exceed the ratio set for the contractor's total work force. If the contractor exceeds this ratio, he must pay those apprentices who cause the ratio to be excessive at the journeyman's rate.

#### 5.1.2 Contract Work Hours Standards Act

The Contract Work Hours Standards Act requires the payment of overtime compensation to laborers and mechanics for all hours worked in excess of eight hours per day and forty hours per work week. The Act and the contract provisions apply to all laborers and mechanics, including watchmen and guards, employed by any contractor or subcontractor in the performance of any part of the work contemplated by the contract. It should be noted that guards and watchmen are not included within the meaning of the Davis-Bacon Act.

Overtime compensation is paid at a minimum of one and one-half times the applicable basic rate of pay. In the cases where collective bargaining has resulted in the contractor paying double or more time for overtime and work on holidays, the Government representative will not require the contractor to pay more than the required rate, but does not

interfere if the contractor pays in excess of the rate required in the contract provisions.

#### 5.1.3 Copeland (Anti-Kickback) Act

The Copeland (Anti-Kickback) Act covers the kickback of any of the employee's wage in any manner, to his employer. The law states "... that whoever by force, intimidation, or threat of procuring dismissal from employment, or by any other manner whatsoever, induces any person employed on the contract to give up any part of the compensation to which he is entitled under his contract of employment, shall be fined not more than \$5,000 or imprisoned not more than 5 years."<sup>28</sup>

Kickbacks may take the form of directly giving back a portion of the worker's pay or may be in the form of unauthorized payroll deductions. The Secretary of Labor issues a list of authorized payroll deductions and only those deductions may be made. If the contractor wishes to have a deduction authorized, he must petition the Secretary of Labor.

#### 5.1.4 Executive Order Number 11246

Executive Order Number 11246 covers Equal Employment Opportunity on government contracts. It simply states that contractors performing work under contracts for \$10,000 or

more, are precluded from discriminating against employees or applicants for employment because of race, color, religion, sex or national origin and contractors must take affirmative action to preclude discrimination.

Enforcement of this order is the responsibility of the Secretary of Labor and as such, the Corps, NAVFAC, and the USPS merely forward any complaints to the Secretary of Labor.

#### 5.1.5 Compliance Monitoring

Procedures for monitoring compliance are contained in the Secretary of Labor's Regulations, Title 29, Code of Federal Regulations, Subtitle A, Parts 3 and 5. These regulations prescribe procedures to be used in the submittal and checking of payrolls and conducting the labor standard interviews.

#### 5.2 Labor Standards Interviews

Appendix D1 contains the form used by the three Governmental Agencies in recording labor standards interviews. The frequency of the interviews varies between agencies. USPS requires its A/E to conduct at least one interview per month, whereas NAVFAC and the Corps require a minimum of one per week. The number of interviews conducted each week by

the Corps and NAVFAC personnel is determined by the number of employees performing work in each job classification and the scope of the contract work. In other words, if there are 100 workmen on-site, ten interviews would be conducted rather than one and conversely if only ten workmen were on site, one or two interviews would be conducted.

Interviewers attempt to interview a cross section of the workforce, including employees of subcontractors who are on-site for a relatively short time. Interviews are conducted during the workday and an attempt is made to cause the least amount of disruption as possible. The interviews are conducted on a confidential basis with no third party being present. The interviews may be suspended on jobs where the workforce is fairly stable, all workers have been interviewed, and no violations have been reported.

The information obtained through the use of the interviews is used to check the payrolls submitted by the contractor for that time period.

### 5.3 Payroll Submittals

The prime contractor is required to submit weekly copies of his payroll and a "Statement of Compliance" on Corps and NAVFAC projects. USPS requires only certified payroll copies.



Appendix D2 shows examples of a payroll and "Statement of Compliance." The prime contractor is also responsible for obtaining and submitting payroll copies and "Statements of Compliance" from all his subcontractors.

Each payroll copy must show:

1. Employee's name
2. Job classification
3. Actual hours worked per day (regular and over-time)
4. Hourly wages paid
5. Gross earnings
6. Deductions
7. Net earnings
8. Fringe benefits paid (if paid directly to employees)

An address and social security number must be included for each employee on the first weekly payroll copy reporting the employee working.

The checking of payrolls is a tedious process but is done to ensure compliance with the labor standards provisions. The following criteria is used in the examination of the payroll:

1. Employees are properly classified and are paid

- the appropriate rate and fringe benefits
2. Hours worked shown are checked with shift hours as well as overtime hours and rates
  3. Compare payroll with the daily logs to see that the payroll reflects the various activities reported on the daily logs for the work week involved
  4. Check for disproportionate use of laborers, helpers and apprentices to journeymen and for proof of registration as apprentices
  5. Examine the contractor's weekly "Statement of Compliance" to see that it is complete and that dates and deductions listed are consistent with those on the payroll and that no unauthorized deductions are made
  6. When fringe benefits are required, check Fringe Benefits Statement for completeness and proper execution.

#### 5.4 Enforcement

Neither the USPS, NAVFAC or the Corps are compliance agencies. This is to say that none of these agencies may direct the contractor to rectify a violation of the Labor Standards provisions. The Department of Labor is the

compliance agency for the Government, but enters the process at different times for the agencies. The most common violation of the Labor Standards provisions is the underpayment of wages. Each agency handles the violation in an individual manner.

The USPS policy concerning labor violations has the complaint handled entirely by the Department of Labor. Mr. Kearney expressed great satisfaction in the responsiveness of the Department of Labor to complaints. He stated that they expeditiously acted on complaints and in general provided excellent support.

In the violations on NAVFAC and Corps contractors, first the validity of the complaint is investigated. If the investigation reveals that there was an underpayment, the contractor is requested to make restitution and sufficient funds are retained to cover the claim. In the majority of cases, the contractor will acknowledge his mistake and make restitution. When the contractor presents proof of restitution, the funds retained to cover the claim are released to the contractor.

If the contractor refuses to make total restitution, the case is handed to the Secretary of Labor for a determination. A Corps of Engineers' employee stated that he was

not completely satisfied with certain aspects concerning the support from the Department of Labor (DOL). He contended that the DOL personnel did not expeditiously handle claims. His was the only negative view of DOL, as LCDR Holland agreed with Mr. Kearney in that he felt DOL was doing a satisfactory job.

If after the Secretary of Labor's decision, the contractor still refuses to make restitution, the funds retained to cover the claim are transferred to the General Accounting Office for payment to the claimant.

#### 5.5 Labor Disputes-Work Stoppages

The contractor has the basic responsibility for the handling of labor difficulties and work stoppages. Whenever the contractor has knowledge that any actual or potential labor dispute threatens to delay completion of the contract, he must provide the Government all relevant information with respect to the dispute. The NAVFAC or Corps representative then forwards a "Work Stoppage Report" (Appendix D3) to higher authority. The USPS A/E, when notified of a labor dispute, telephonically notifies the Project Coordinator. Reports are then rendered as the dispute continues until the

labor dispute is ended.

Governmental representatives are advised to exercise great care not to appear to side with either party or attempt to mediate a solution. The only assistance the Government renders to a contractor involved in a labor dispute is to advise the contractor to make use of any facilities for conciliation and arbitration available to him within the industry.

Interviews with personnel from the agencies indicated a very low incidence of work stoppages as a result of labor disputes. It is noted that the personnel spoke only from experience in the New England area and does not necessarily reflect the situation on a national level.

#### 5.6 Subcontractors

The prime contractor's subcontractor's have included in their contracts these same labor standards provisions. The subcontractors on NAVFAC and Corps contracts must sign a "Statement of Acknowledgement" (Appendix D4) which states that he is aware that the Labor Standards provisions applies to his operation as well.

## Chapter 6

### Diaries And Logs

The construction industry is deeply rooted in adversary relationships. The owner is attempting to get the most for his money and the contractor is trying to maximize his profits. These divergent long term objectives inevitably lead to conflicts. If these conflicts cannot be negotiated to the mutual satisfaction of both parties, they eventually end up in arbitration or the courtroom. A substantial time lapse between the dispute first surfacing and testimony being taken is normally the rule. It is for this reason that diaries and logs are maintained, to be admissible in a legal proceeding and to serve as a refresher to the participants.

#### 6.1 Photographs

Photographs are invaluable in disputes as they portray the conditions as they actually were. NAVFAC, the Corps and the USPS require photographs be taken as the project progresses. The USPS requires their A/E to submit one print each of six 8" x 10" glossy black and white progress photos monthly to the Project Coordinator. Each print contains the name of the project, the city, state, date taken, photographer's

name and negative number noted on the back. NAVFAC requires the Contractor's CQC representative to submit monthly photographs of the project. The number of photographs is dependent upon the scope and complexity of the project. The Corps places the requirement for photograph-taking upon the Resident Engineer. The Corps allows Black and White photos to be taken, but prefers the results obtained when 35mm color slides are taken.<sup>29</sup> The following types of photographs are taken:

1. Views of major construction projects during various stages of completion and when completed
2. Scenes of value in connection with changed conditions or of claims or potential claims
3. Detailed views of work in place for which removal has been ordered because of noncompliance with the plans and specifications
4. Construction in which unusual difficulties have been overcome or where the subject is of technical interest
5. New methods of construction
6. Property or material damages.<sup>30</sup>

#### 6.2 Corps of Engineers Master Diary

A Master Diary is kept by the person who has active supervision of the construction project. In most cases this is the Resident Engineer. The diary consists of daily entries in either a bound book or a separate section of a loose leaf binder. The entries may be handwritten or typed, with the only requirement being that it must be well organized in a neat manner with all entries clearly defined by contract number. The entries are to be made as the events occur and include brief summaries of all important occurrences of the Resident's office, i.e., conferences, telephone conversations, instructions from higher authority, instructions issued to the contractor, the contractor's reaction and pertinent remarks.<sup>31</sup>

In addition to these summaries, the following items should be recorded in great detail: occurrences which involve present or potential differences with the contractor, such as scope of contract, responsibilities for performing particular work, etc. As noted, particular care is taken to record and preserve all possible data and evidence which may become the basis for a claim.<sup>32</sup> The Resident signs each day's entry into the diary. If entries are made by persons other than the Resident Engineer for whatever reason, the entry is initialed by the person and authenticated by the



Resident upon his return after checking the entries.

Upon project completion, the diary is forwarded to the District Office to become part of the permanent project record.

### 6.3 Corps of Engineers Daily Log of Construction

Each person performing a daily inspection function on Corps projects prepares a "Daily Log of Construction" (Fig. 6.1). Information needed for the report is accumulated throughout the day in a standard surveying notebook.<sup>33</sup> The book and page numbers are numbered sequentially and are noted on the "Daily Log of Construction." Daily entries are dated and signed by the inspector. The surveying field notebooks become a part of the permanent contract file when the project is completed.

The following items are covered in the "Daily Log of Construction":

1. The reports are consecutively numbered in a clear, simple manner and are referenced to the specific project
2. The weather is recorded in descriptive terms and indicates the duration of weather which was unsuitable for work. Maximum and minimum

Figure 6.1

DAILY LOG OF CONSTRUCTION						REPORT NUMBER	
						DATE	
TO:						CONTRACT NUMBER	
PROJECT						WEATHER	
CONTRACTOR (Or hired labor)						SHIFT	
PORTION OF SCHEDULED DAY SUITABLE FOR OPERATIONS						TEMPERATURE	
STRUCTURAL EXCAVATION	BORROW EXCAVATION	EMBANKMENT	CONCRETE	STRUCTURE	MINIMUM	MAXIMUM	
%	%	%	%	%			
NUMBER OF GOVERNMENT EMPLOYEES						RIVER STAGE	
SUPERVISORY	OFFICE	LAYOUT	INSPECTION	TOTAL	LABOR	FEET	TIME
							M
<p>WORK PERFORMED. (Indicate location, description including number and quantity and payment item)</p> <p>INCLUDE UNDER REMARKS. (Material, visitors, etc.)</p>							
TITLE					SIGNATURE		

DIFFICULTIES ENCOUNTERED AND DELAYS (Account for each hole, monolith, etc., separately)

INSTRUCTIONS GIVEN TO CONTRACTOR - INFORMATION RECEIVED FROM CONTRACTOR

[illegible]

SAFETY HAZARDS ENCOUNTERED	

REFERENCE TO FIELD BROOK RECORD

FIELD BOOK NO.

PAGE NO(S).

CONTRACTOR'S PLANT

CONTRACTOR'S LABOR	
--------------------	--

[illegible]

temperatures are obtained from an accurate source (National Weather Service) in the proximate vicinity of the project and included in the report

3. Equipment on the job site is listed and noted as to be idle or working. If idle, the reason is included if known
4. Under "Work Performed Today," a clear and understandable description of the areas in which work was done is entered. The descriptions of the areas should be such that they can be readily identifiable with the contract drawings.
5. Reasons for lack of work on the day of the report are determined and entered on the report
6. Instructions given to the contractor including the name of contractor representatives talked to, including controversial matters are included in detail
7. Names of visitors and any pertinent comments
8. The numbers and trade classification of contractor personnel on-site
9. Results of Quality Assurance inspections and

checktests, deficiencies observed, actions taken, and proposed corrective action by the contractor. CQC activities monitored.

10. Information which has not been included previously is included. Factual information as to delays, actual or anticipated, is included. Followup information to confirm delays or to state that the delay did not materialize
11. Where previous reports noted work which was not in compliance with the contract requirements, reports as to whether corrective action was taken or reasons why no action has been taken
12. Comments on the contractor's Quality Control Report after reviewing it
13. Safety violations observed and corrective action taken.<sup>34</sup>

The "Daily Construction Logs" are prepared in triplicate with one copy going to the Chief of the Construction Division; one to the Area Engineer (where applicable) and one is attached to the contractor's "Quality Control Report" and becomes a part of the permanent contract file.

#### 6.4 NAVFAC Construction Representative's Report (CRR)

Figure 6.2 illustrates the form for the CRR. A CRR is filled out daily for each project assigned to a Construction Representative (CR). The CR gathers the necessary information on each project throughout the day. Unlike the Corps inspector, the CR initially records his information in any manner he deems best. The CR includes in his report the following information:

1. References to the contract number, date and specific contractor
2. Items which the CR has personally observed or inspected
3. Comments on results of observation or inspection
4. Any off-site contractor inspection or testing observed
5. Any matters which could not be resolved with the CQC representative and should be brought to the attention of higher authority
6. List any safety violations observed, accidents or safety lectures given
7. Instructions given to CQC representatives, superintendent, or subcontractor
8. Any work not in compliance with the contract documents
9. Visitors to the site

**CONSTRUCTION REPRESENTATIVE'S REPORT (CRR)**  
NAVFAC 11013/10 (REV. 1-74) S/N 0105-LF-002-3351

REPORT NAVFAC 11013-11

*Review CQC report and daily report to Inspector; verify by spot checking work in place or progress, equipment, and material delivered to site; observe testing procedures; review CQC Records.*

1. DATE
2. REPORT NO

3. CONTRACT NO.	4. SHORT TITLE	5. PLACE
6. CONTRACTOR	7. SUPERINTENDENT	8. COC REPRESENTATIVE

[illegible]

**10. LIST OFF-SITE CONTRACTOR INSPECTION AND TESTING OBSERVED**

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## 11. COMMENT ON CQC DAILY REPORT (List areas of disagreements that cannot be resolved)

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12. JOB SAFETY (Uncorrected hazards-loss time accidents)

13. INSTRUCTIONS GIVEN CQC REPRESENTATIVE/SUPERINTENDENT (Follow up in writing)

14. DEFICIENCIES NOTED (Attach Contract Construction Compliance Notice, NAVFAC 4330/36)

15. REMARKS (Visitors, delays, problem areas, job progress, fires, field changes, change orders, adherence to CQC plan, CQC Records)

16. SIGNATURE OF CONSTRUCTION REPRESENTATIVE



10. Actual or anticipated delays
11. Actual or anticipated problem areas
12. Field changes or change orders issued
13. Any items the CR believes pertinent.<sup>35</sup>

The CR makes three copies of the report. One copy is sent to the Project Manager, one copy is attached to the CQC Report and the "Daily Report to Inspector" and becomes part of the permanent contract file and the third is retained by the CR. The CRR is not as detailed as the Corps' "Daily Log of Inspection," i.e., it does not mention weather, number of contractor personnel, etc. This information is contained in the Superintendent's "Daily Report to Inspector" and as such would be redundant.

#### 6.5 NAVFAC Daily Report to Inspector

The "Daily Report to Inspector" is completed daily by the contractor's superintendent (Fig. 6.3). His report includes the following items:

1. Breakdown of the workforce by number, trade and hours on the job, as well as any pertinent comments
2. What tests were performed, where they were performed and the results of the test

**DAILY REPORT TO INSPECTOR**  
**NAVFAC 4330/34 (REV. 3-75)**  
**S/N 0105-LF-001-9761**

(over)

## EQUIPMENT AND MATERIAL RECEIVED THIS DATE TO BE INCORPORATED IN JOB

ITEM	REMARKS (Accepted, Rejected, Etc.)	ITEM	REMARKS (Accepted, Rejected, Etc.)

## CONSTRUCTION AND PLANT EQUIPMENT LEFT ON JOB SITE UNTIL USE THEREOF IS COMPLETED

DESCRIPTION	DATE FIRST ON JOB (First time only)	HOURS WORKED THIS DATE	HOURS IDLED	DATE OF FINAL REMOVAL FROM JOB SITE

## CONSTRUCTION AND PLANT EQUIPMENT NOT LEFT ON JOB SITE PERMANENTLY

(This will include pickup trucks and mobile mounted items, such as a compressor, that are also used for transportation to and from the job.)

DESCRIPTION	HOURS WORKED	HOURS IDLED

3. Inventory of what equipment and material were delivered to the site and whether it was accepted or rejected
4. Construction and plant equipment left on-site, hours worked and hours idled
5. Construction and plant equipment not left on job site permanently.

This report is reviewed by the CR and is made part of the permanent contract record.

#### 6.6 USPS Daily Log

The USPS has no formal form for its daily reports. When it contracts with an A/E firm for construction management services, it tells the A/E it requires daily reports, gives him an example of the information it desires, and allows the A/E to decide the format in which the information is to be forwarded (Fig. 6.4). Basically the USPS wants the following information included:

1. Weather conditions, maximum and minimum temperatures
2. Problem areas and action taken
3. Breakdown of work force and work accomplished

Figure 6.4

CONTRACT NAME: USPO & VMF, _____ Project		CONTRACT NO. USPS CONTRACT #109450-77-R-00xx	DAILY REPORT NO. 278
WEATHER: Fair and hot      no rain	TEMP: Min. 76 Max. 97	DATE 6/9/77	

## COMMENTS:

Missing parts for Paint Spray Booth located; installation proceeding..

xxx ELECTRIC COMPANY - Electrical

1 supt, 3 foremen, 25 men  
roughing in branch circuits in administration area and sections C and D;  
pulling wire in sections B, C, and D; hanging fixtures in sections H and D.

xxx COMPANY - Mechanical

1 supt, 1 foreman, 3 men  
Re- routing pipe to miss LOG's.

xxx COMPANY - HVAC Ductwork

1 man  
Installing diffusers and drops in ceilings, administration area.

xxx COMPANY- Insulation

3 men  
Insulating piping in sections A and B, at mezzanine.

xxx COMPANY, INC. - Temperature Controls

1 man  
Installing controls at air-handlers, mezzanine section A.

xxx FIRE PROTECTION INC. - Fire Protection

3 men  
Installing sprinkler piping at north dock, section A.

xxx PAINTING COMPANY - Painting

1 foreman, 9 men  
Painting exposed ceilings in sections B, F, and C; taping and bedding  
drywall partitions for LOG's and in administration area.

xxx MASONRY - Masonry

1 foreman, 21 men  
Laying block at upper portion west wall and at dead letter storage;  
cleaning face brick at west wall.

xxx CONCRETE COMPANY - Concrete

1 foreman, 4 men  
Placed and finished 4½ cu. yds. light-weight concrete at LOG floors.

THE xxx COMPANY - Curb and Gutter

2 men  
Setting line and grade for curb and gutter at southwest entrance.

xxx DOOR COMPANY - Overhead Doors

2 men  
Cleaning window baskets and adjusting overhead doors at VMF.

xxx Z COMPANY - Drywall and Acoustical Ceilings

1 foreman, 15 men  
Installing dry wall at administration area and LOG's, work room; hanging  
ceiling grid in administration area..

xxx COMPANY INC. - General Contractor

1 proj mgr, 1 off mgr, 1 field engr, 8 ironworkers, 2 carpenters, 2 laborers  
Erecting steel for toilet partition support; installing hangers for LOG's.  
installing paint spray booth, and cleaning up.

70 of 70

AD-A087 949

ARMY MILITARY PERSONNEL CENTER ALEXANDRIA VA  
CONSTRUCTION MANAGEMENT ACTIVITIES OF GOVERNMENTAL AGENCIES IN —ETC(U)  
FEB 80 R F SLIWOSKI

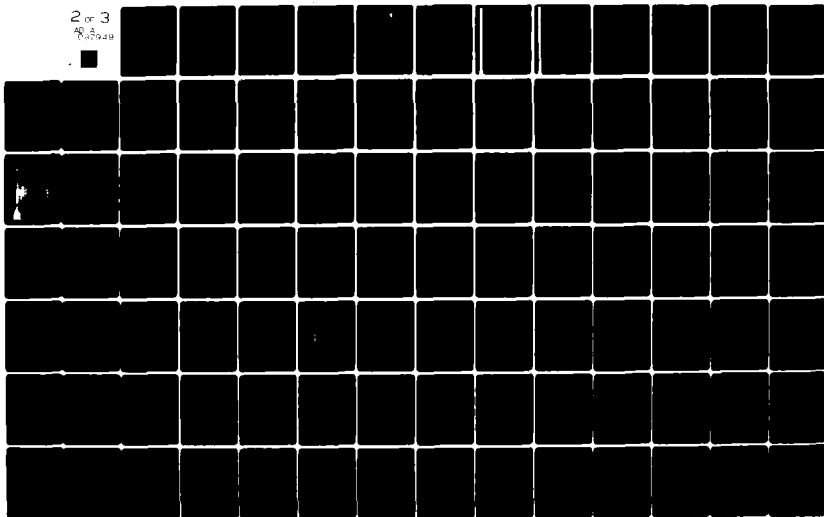
F/G 5/1

UNCLASSIFIED

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2 of 3

AD-A087 949



4. Telephone conversations pertinent to the project
5. Accidents
6. Visitors to the site as well as the purpose  
of the visit.<sup>36</sup>

The daily log is considered to be a legal document and as such eventually becomes part of the permanent contract documents.

## Chapter 7

### Progress Payments

In times of tight money and high interest rates, as we are presently experiencing, construction contractors are in a precarious situation. Due to the fact that most contractors must borrow money to continue to operate from pay period to pay period, the time it takes from the moment he submits his interim pay request until he receives the funds may well dictate whether he makes a profit or goes bankrupt. The policies and procedures of the different Governmental Agencies in processing these payment requests are therefore of more than passing interest to the contractor. This chapter addresses the procedures of the individual agencies.

#### 7.1 Corps of Engineers Payment Procedures

The frequency for making payments to the contractor is set forth in the "Payments to Contractor" clause of the General Provisions. Usually the pay period is set at once a month, but this period may be as frequent as every two weeks. The period set is at the discretion of the Contracting Officer. In setting the actual payment submittal dates, the Corps attempts to balance its workload to allow



expeditious processing.<sup>37</sup> On the average, NED has a processing time of between 5 and 7 days.<sup>38</sup> This processing time begins when the contractor submits his request to the Resident Engineer and ends when he receives payment. This processing time is 2-3 weeks faster than for NAVFAC and USPS payments. This is attributable to the fact that the Corps is collocated with their disbursing center, whereas NAVFAC and USPS disbursement centers are located at some distance from the field offices.

The progress payments are based on the work accomplished from one pay period to the next. The Contracting Officer, in most cases, allows the contractor to include in his estimate the fair market value of on-hand materials which have not been incorporated into the job. The material must be approved material and be properly stored and protected. The contractor remains responsible for all materials, both paid and unpaid, until final acceptance. The material may be stored on-site or off-site and is checked by a Corps representative. The request for payment for materials must have an invoice attached showing that the contractor has free and clear title to the material and did not purchase it on credit.

The payment process begins with the contractor submitting his estimate and supporting documentation (schedules,

invoices) to the Resident Engineer. The Resident Engineer is responsible for the accurate preparation of the progress payment. He begins by checking the contractor's estimate using data provided in the "Daily Log of Construction." The Resident Engineer checks the value of the work completed by comparing the estimate with contractor's furnished bid breakdown. This bid breakdown shows the individual work items and their cost. The cost includes an apportionment of the overhead and profit costs. He then prepares a "Payment Estimate" (Fig. 7.1) and signs it. If the contractor or his authorized agent expresses a desire to sign the estimate, he is given the opportunity to do so prior to the estimate being forwarded to the District Office. The contractor does not have to agree with the estimate amount to be paid him. Usually if there is a difference of opinion, the contractor will wait until the final payment before putting in his claim.<sup>39</sup> This is done so as not to cause any delay in the payment.

In the Resident's estimate, he is authorized to deduct monies due for a variety of reasons.<sup>40</sup> The Resident Engineer deducts a percentage of the estimate as retainage. The percentage to be retained is stated in the "Payments to Contractor" clause of the General Provisions. In practice, the retainage is 10% of the payment until 50% of the work is

Figure 7.1 (1 of 2)

## PAYMENT ESTIMATE - CONTRACT PERFORMANCE

PAYMENT ESTIMATE - CONTRACT PERFORMANCE									
1. DATE		18 October 1976		SHEET 1 OF 1					
2. CONTRACTOR AND ADDRESS		Brighton Early Construction Co. 111 N. Atch Street, Boston, MA 02109		3. CONTRACT NO. DACW33-76-C-0090					
4. DISTRICT		New England Division		5. REQUIRED COMPLETION DATE					
6. DESCRIPTION OF WORK		Construction of Local Protection Project		7. REQUIRED COMPLETION DATE					
8. LOCATION		Clear River, Anywhere, MA		8. ESTIMATE NO.					
9. PERIOD COVERED BY THIS ESTIMATE		FROM 1 Sept. 76 THRU 30 Sept. 76		10. JOB ORDER NO.					
11. ESTIMATE NO.		10-Partial		11. ESTIMATE NO.					
12. PERIOD COVERED BY THIS ESTIMATE		FROM 1 Sept. 76 THRU 30 Sept. 76		10. JOB ORDER NO.					
13. PERIOD COVERED BY THIS ESTIMATE		FROM 1 Sept. 76 THRU 30 Sept. 76		10. JOB ORDER NO.					
ITEM NO.	DESCRIPTION	QUANTITY AND UNIT	UNIT PRICE	AMOUNT	QUANTITY AND UNIT	AMOUNT			
1	Original Date Set for Completion	1 Oct. 1976							
2	Adjusted Date Set for Completion	19 Oct. 1976							
3	Date Completed								
4	Earnings to Date								
5	Original Value of Contract			1,618,930.00		1,109,420.00			
6	Revisions Due to Supplemental Agreements			0.00					
7	Revisions Due to Modifications			46,382.00		10,624.00			
8	Revisions Due to Overruns/Underruns					60,832.00			
9	Material Onsite Not Yet Incorporated in Work					5,341.00			
10	Material Offsite								
TOTAL CONTRACT				1,665,312.00		1,186,217.00			
14. A. PREVIOUS DEDUCTIONS OTHER THAN RETAINED PERCENTAGE**				0.00					
B. PREVIOUS RETAINED PERCENTAGE				75,693.00					
C. PREVIOUS PAYMENTS				946,586.00					
D. PREVIOUS EARNINGS (A+B+C)						1,022,279.00			
E. EARNINGS THIS PERIOD (TOTAL EARNINGS TO DATE MINUS D)						163,938.00			
F. LESS RETAINED PERCENTAGE				16,393.80					
G. LESS DEDUCTION OTHER THAN RETAINED PERCENTAGE FOR				0.00					
H. TOTAL DEDUCTIONS THIS PERIOD (F+G)						16,393.80			
I. AMOUNT DUE CONTRACTOR (E-H)						147,544.20			
15. RECAPITULATION									
TOTAL RETAINED PCTG. (B+F)				92,086.80		1,094,130.20			

1. CONTRACTOR AND ADDRESS

2. DESCRIPTION OF WORK

3. LOCATION

4. DATE

5. ORIGINAL VALUE OF CONTRACT

6. REVISIONS DUE TO SUPPLEMENTAL AGREEMENTS

7. REVISIONS DUE TO MODIFICATIONS

8. REVISIONS DUE TO OVERRUNS/UNDERRUNS

9. MATERIAL ONSITE NOT YET INCORPORATED IN WORK

10. MATERIAL OFFSITE

11. TOTAL CONTRACT

12. PREVIOUS DEDUCTIONS OTHER THAN RETAINED PERCENTAGE\*\*

13. PREVIOUS RETAINED PERCENTAGE

14. PREVIOUS PAYMENTS

15. PREVIOUS EARNINGS (A+B+C)

16. EARNINGS THIS PERIOD (TOTAL EARNINGS TO DATE MINUS D)

17. LESS RETAINED PERCENTAGE

18. LESS DEDUCTION OTHER THAN RETAINED PERCENTAGE FOR

19. TOTAL DEDUCTIONS THIS PERIOD (F+G)

20. AMOUNT DUE CONTRACTOR (E-H)

21. RECAPITULATION

22. TOTAL RETAINED PCTG. (B+F)

23. TOTAL PAID (C+D)

• (USE REVERSE SIDE FOR DETAILED EXPLANATION AND OTHER REMARKS)

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2

Figure 7.1 (2 of 2)

PA) PRELIMINARY ESTIMATE - CONTRACT PERFORMANCE (Continuation)				4. CONTRACT NO. DACW33-76-C-0090	2 SHEET 2 OF 2
3. CONTRACTOR AND ADDRESS Brighton Early Construction Co. 111 N. Arch Street, Boston, MA 02109		9. PERIOD COVERED BY THIS ESTIMATE FROM 19 Oct. 76 TO Supplemental			
12. ITEM NO.	13. DESCRIPTION	14. CONTRACT			
		14. A. QUANTITY AND UNIT	14. B. UNIT PRICE	15. C. AMOUNT	15. D. TOTAL TO DATE
1	Preparation of Site	1 Job	L.S.	70,000.00	70,000.00
2	Excavation General	18,000 c.y.	2.50	45,000.00	47,750.00
3	Gravel Fills	31,700 c.y.	3.80	120,460.00	120,460.00
4	Random Fills	13,500 c.y.	1.50	20,250.00	20,250.00
5	Impervious Fills	67,400 c.y.	3.00	202,200.00	202,200.00
6	Chain Link Fencing and Wood Posts and Chains	1 Job	L.S.	2,500.00	2,500.00
7	Tonsoiling	3,500 c.v.	5.50	17,500.00	18,925.00
8	Seeding	4.5 Acre	2000.00	9,000.00	9,000.00
9	Planting	1 Job	L.S.	7,550.00	7,550.00
		B-2			

EMC FORM 936  
1 JUN 54

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

(EM 28-2-16 &amp; EM 35-345-7)

U.S. GOVERNMENT PRINTING OFFICE 105-1-1104

complete.<sup>41</sup> At this time, if the project is progressing well, the Resident Engineer, at his discretion, may reduce the percentage retained or eliminate the retainage entirely. The Resident Engineer may also deduct sufficient funds from the estimate to cover any wage violations which are detected, or if the contractor has failed to submit a payroll record on time, deduct an estimated amount sufficient to pay the employees. This amount is paid the contractor upon written proof of restitution or the submittal of the delinquent payroll record. Deductions may also be made if the contractor is not maintaining satisfactory progress, i.e., submittals are late, or if there is any controversy over the quality of work completed. In these cases, the funds which are withheld do not exceed the value of the item in controversy.

The Resident Engineer then forwards the estimate and if the project is using CPM, an updated schedule, to the Office Engineering Branch of the Construction Division for review. Upon the completion of the review, the estimate is forwarded to the Finance and Accounting Branch for payment. It is interesting to note that the Resident Engineer's signature is the only signature needed for payment. The Contracting Officer only reviews and signs the estimate for final payment. This is done as a courtesy to let him know the project has

been completed.<sup>42</sup>

## 7.2 NAVFAC Payment Procedures

NAVFAC, as does the Corps and USPS, has the option of paying monthly or bi-weekly. Generally NAVFAC pays on a monthly basis unless the contractor can cite valid reasons for shorter pay periods.<sup>43</sup> LCDR Holland estimated the processing time for a payment request at 2-3 weeks. This is attributable to the payment request having to be sent to either Norfolk, Va., or Port Hueneme, Cal. for disbursement.

The contractor is required by the contract to submit a "schedule of Prices" within 5 days of receipt of the Notice of Award. The "Schedule of Prices" has significant importance in that it is used to evaluate contractor invoices for the life of the contract. The schedule consists of a detailed breakdown of the contract price, giving the quantities for each of the various kinds of work, the unit prices and the total prices of each item.<sup>44</sup> Overhead and profit should not be listed separately but rather be included in each item of work. Figure 7.2 is an example of a completed "Schedule of Prices."

Unlike the Corps, the NAVFAC contractor has specific forms to submit for payment. These are "Contractor's Invoice"

**SCHEDULE OF PRICES (CONSTRUCTION CONTRACT)**  
**NAVFAC 4330/4 (REV. 10-77)**  
**S/N 0105-LF-003-3020**

07 PX015 1

(Fig. 7.3) and a "Contract Performance Statement " (Fig. 7.4). Prior to the submittal of these forms, contractors are encouraged to have the person responsible for the submission of the forms meet with NAVFAC personnel to ensure they are filled out correctly.<sup>45</sup> The forms along with an updated schedule are then submitted to the assigned CR for processing. NAVFAC contractors, like Corps contractors, may be paid for material on-hand but not yet incorporated into the project. NAVFAC has set the goal that payments are to be processed within the ROICC's office within 5 working days after receipt.<sup>46</sup> The internal review follows the steps as illustrated by the routing slip in Fig. 7.5. The CR reviews his daily reports, the contractor's daily reports, the CQC reports and the as-built drawings in checking the contractor's invoice for accuracy. After the review is complete and the SAROICC has signed the forms, the packet is sent to the appropriate disbursement center.

In the instances where discrepancies are found in the contractor's invoice, the processing of the payment continues. These discrepancies may be missing payrolls, late submittals, unacceptable work or wage violations. The contractor is notified by letter that the payment is being processed minus a certain amount which represents the estimated value of the



NAVFAC 10-7300/30 (4-68)  
Supersedes NAVDOCKS 2311  
S/N 0105-LF-004-8620

Figure 7.3

U. S. NAVY, NAVAL FACILITIES ENGINEERING COMMAND  
CONTRACTOR'S INVOICE

INVOICE DATE \_\_\_\_\_

INVOICE NUMBER \_\_\_\_\_

From:

To: Officer In Charge of Construction  
Via: Resident Officer In Charge of Construction

1. Below is a Statement of Performance under Contract \_\_\_\_\_ at (Station) \_\_\_\_\_

The enclosure provides breakdown of this statement of performance.

A. Total value of contract through change \_\_\_\_\_ \$ \_\_\_\_\_  
B. Percentage of performance complete \_\_\_\_\_ %  
C. Value of completed performance \_\_\_\_\_ \$ \_\_\_\_\_  
D. Less: Total of prior invoices \_\_\_\_\_ \$ \_\_\_\_\_  
E. Amount of this invoice \_\_\_\_\_ \$ \_\_\_\_\_

Signature and Title \_\_\_\_\_

FIRST ENDORSEMENT

Date \_\_\_\_\_

From: ROICC

To: OICC

1. Payment is recommended as follows:

a. Amount of work completed to \_\_\_\_\_ \$ \_\_\_\_\_  
b. Less retention \_\_\_\_\_ \$ \_\_\_\_\_  
c. Sub-total \_\_\_\_\_ \$ \_\_\_\_\_  
d. Less previous payments \_\_\_\_\_ \$ \_\_\_\_\_  
e. Recommended amount for \_\_\_\_\_ payment. \_\_\_\_\_ \$ \_\_\_\_\_

2. Work is satisfactorily ☐ progressing / ☐ completed.

3. Elapsed contract time \_\_\_\_\_ %.

4.

Signature \_\_\_\_\_



Figure 7.5

**DEPARTMENT OF THE NAVY**  
**OFFICER IN CHARGE OF CONSTRUCTION**  
**RESIDENT OFFICER IN CHARGE OF CONSTRUCTION**  
 BUILDING NO. 408, BOX 28  
 NAVAL SUBMARINE BASE, NEW LONDON  
 GROTON, CONNECTICUT 06340

Date received \_\_\_\_\_  
 Contract N62472- \_\_\_\_\_  
 Monthly Estimate for Voucher No. \_\_\_\_\_  
 Amount of requested payment \_\_\_\_\_

Route Order	Date	Action																		
1		Project Manager																		
		Activity Approval (Service Contract):  <div style="text-align: center;">_____</div> Signature																		
		Inspector approval: <table style="margin-left: 20px;"> <thead> <tr> <th></th> <th>yes</th> <th>no</th> </tr> </thead> <tbody> <tr> <td>1. Payment Qty correct</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>2. Payrolls for period received &amp; correct</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>3. As builds up to date</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>4. Progress schedule accurate</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>5. Recommend payment</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> <div style="text-align: center;">_____</div> Signature		yes	no	1. Payment Qty correct	<input type="checkbox"/>	<input type="checkbox"/>	2. Payrolls for period received & correct	<input type="checkbox"/>	<input type="checkbox"/>	3. As builds up to date	<input type="checkbox"/>	<input type="checkbox"/>	4. Progress schedule accurate	<input type="checkbox"/>	<input type="checkbox"/>	5. Recommend payment	<input type="checkbox"/>	<input type="checkbox"/>
	yes	no																		
1. Payment Qty correct	<input type="checkbox"/>	<input type="checkbox"/>																		
2. Payrolls for period received & correct	<input type="checkbox"/>	<input type="checkbox"/>																		
3. As builds up to date	<input type="checkbox"/>	<input type="checkbox"/>																		
4. Progress schedule accurate	<input type="checkbox"/>	<input type="checkbox"/>																		
5. Recommend payment	<input type="checkbox"/>	<input type="checkbox"/>																		
		Supv. Construction Rep.																		
		Project Manager																		
		Procurement Clerk																		
		Contract Specialist																		
		Project Manager																		
		Senior AROICC																		
		Procurement Clerk (Date Out)																		

discrepancy. If the contractor's invoice has discrepancies which decrease the actual amount due by over 25%, the contractor has the invoice returned with an accompanying letter citing the errors and directing resubmission.

### 7.3 USPS Payment Procedures

The USPS has the option of paying every two weeks or monthly. The USPS prefers to pay on a monthly basis and attempts to coincide payment submittal with the Project Coordinator's monthly meeting with the contractor. This meeting occurs only monthly because of the multitude of projects assigned to the Project Coordinator and the distances between the FREBO and the various projects.<sup>47</sup>

The contractor must furnish to the USPS A/E a "Schedule of Trade Payment Values" in sufficient time for him to review it and make any necessary alterations. The breakdown should be the same as the breakdown of work on the "Construction Progress Schedule" and the work categories to be used on the "Trade Payment Tabulation."

Prior to submission of the payment request, the contractor and USPS A/E meet to arrive at an agreement on the percentage of the work complete and the amount of payment due. At this time the contractor will also present invoices to

justify the payment for on-hand equipment and material. The percent of work complete includes work which the contractor expects to have completed by the payroll submittal date. If by chance he does not complete the work, it is merely crossed off the payment request and the amount due is decreased accordingly.<sup>48</sup> Retainage is 10% of the payment and may be decreased or eliminated after 50% of the work is complete.

The payment requests are submitted on two forms; the "Invoice and Payment Authorization" (Fig. 7.6) and a "Trade Payment Tabulation" (Fig. 7.7). The forms are signed by the contractor, USPS A/E, then notarized and forwarded to the Project Coordinator. The Project Coordinator reviews the payment request and supporting data, obtains the Contracting Officer's signature and forwards the packet to the USPS Disbursement Center at St. Louis, Missouri.

Figure 7.6

R-1

U.S. POSTAL SERVICE INVOICE AND PAYMENT AUTHORIZATION (Facility and Fixed Mechanization Contract)				INVOICE DATE		PAYMENT PLANS NO.	
TO: Director, Post Data Center St. Louis, MO 63180				9/27/79		3	
FACILITY NAME AND LOCATION				MPO, Milford, NH 03055			
PROJECT AUTHORIZATION NUMBER (1-13)		CONTRACT NUMBER (16-28)		CHG CODE (29-30)		ACCOUNTING IDENTIFICATION	
8-LK-325190-C-019		249954-79-V-0110		00		B/A FINANCE NUMBER (31-37) 32-51900 SUBLOC NO. (38-40) G01 W/C CODE (41-42) 00	
PAYEE NAME AND ADDRESS							
NAME (43-65) Winn-Con Corporation				ADDRESS (66-82) P. O. Box 509			
ADDRESS (83-111) Laconia, NH 03246				ADDRESS (112-134)			
ADDRESS (135-157)				ADDRESS (158-180)			
PDC USE							
VDR CODE (181-186)	PAY CODE (187)	STATUS (188)	TS CODE (189)	ACCOUNT NUMBER (190-194)	INDEX CODE (195-197)	PAYMENT AMOUNT (From Summary Line 8) Dollars and Cents (198-209)	
				86125	5BC	\$46,780.00	
				TOTAL \$46,780.00			
FOR CONSTRUCTION CONTRACTS: In accordance with the Contract and the Request for Payment the Contractor is entitled to payment in the amount shown above.				PROGRESS PAYMENT SUMMARY			
ARCHITECT-ENGINEER REPRESENTATIVE				1. INITIAL CONTRACT AMOUNT \$ 131,600.00			
COMPANY Rose, Goldberg, Mitsui & Associates ENGINEERS & ARCHITECTS				2. APPROVED CHANGE ORDERS AMOUNT \$ 0			
				3. TOTAL CONTRACT AMOUNT TO DATE (Lines 1 plus 2) \$131,600.00			
BY <i>[Signature]</i> DATE 10-3-79				4. VALUE OF WORK COMPLETED TO DATE (Attach Supporting Data) (Includes value of material received this period attach invoices) \$125,850.00			
TITLE Architect				5. AMOUNT OF RETAINAGE \$ 7,907.00			
				6. SUB-TOTAL (Line 4 minus 5) \$117,943.00			
				7. PREVIOUS PAYMENTS AMOUNT \$ 71,163.00			
				8. AMOUNT OF THIS PAYMENT (Line 6 minus 7) \$ 46,780.00			
				9. FINAL PAYMENT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
The undersigned hereby certifies that the work covered by this application for payment has been completed in accordance with the contract documents and that all amounts have been received from the USPS, and that the undersigned is not a USPO and has not been previously paid.				CONTRACTING OFFICER			
BY <i>[Signature]</i> DATE 9/27/79				APPROVED FOR PAYMENT DATE			
John P. Lacombe				MARTIN F. SMITH, JR. 10/15/79			
TITLE Winn-Con Corporation President				ADDRESS U. S. Postal Service - Northeast Region New England Field Office, P. O. Box 324 Lexington, MA 02173			
DESIGN/CONSTRUCTION MANAGEMENT REPRESENTATIVE RECOMMENDED FOR PAYMENT DATE							
<i>[Signature]</i> 10/5/79							

# TRADE PAYMENT TABULATION

Figure 7.7

TO BE ATTACHED TO APPLICATION AND CERTIFICATE FOR PAYMENT



**SAMPLE**

Project Main Post Office  
Milford, New Hampshire

(Type of work, name & address of facility)

Certificate No.

Date: 9/27/79

Project Authorization No.

-B-1K-325100-C-019

Construction Contract No.

-249954-79-V-0110-

Contractor

Winn-Con Corporation

ITEM NO. A	DESCRIPTION OF WORK B	SCHEDULED VALUE C	WORK COMPLETED		TOTAL COMPLETED TO DATE F (D+E)		BALANCE TO FINISH G
			Previous Applications D	This Application E		%	
1 a	Mobilization	3000.00	\$ 3000	\$	\$ 3000	100	
b	Bond	2000.00	2000		2000	100	
c	Insurance	1000.00	1000		1000	100	
d	Supervision	6000.00	5000	1000	6000	100	
2 a	Demolition	5500.00	5300	200	5500	100	
b	Earthwork	2000.00	2000		2000	100	
c	Paving	300.00	300		300	100	
d	Bumpers	300.00		300	300	100	
3 a	Cut & Patch	1900.00	1570	330	1900	100	
b	Resteel	2000.00	2000		2000	100	
c	Mesh	150.00	150		150	100	
d	Concrete	7650.00	7650		7650	100	
e	Insulation	200.00		200	200	100	
4 a	Masonry	5000.00	5000		5000	100	
5 a	Metals	5600.00	5600		5600	100	
6 a	Rough Carpentry	2000.00	1500	500	2000	100	
b	Finish	5000.00	4000	1000	5000	100	
7 a	Roofing	5000.00	1000	4000	5000	100	
8 a	Hollow Metal	1500.00	500	1000	1500	100	
b	Aluminum Ent.	1000.00	750	250	1000	100	
c	Hardware	2000.00	1000	1000	2000	100	
d	Overhead Doors	1500.00		1500	1500	100	
e	Storm Windows	6000.00		6000	6000	100	
9 a	Gypsum	5000.00	4500	500	5000	100	
b	Suspended Ceiling	3000.00	1500	1500	3000	100	
c	Flooring	8000.00		7000	7000	88	1000
d	Paint, vinyl	9000.00	2000	6000	8000	89	1000
10	Specialities	3000.00	1000	1500	2500	83	500
11	Install USPS Mat'l	2000.00	1500	500	2000	100	
15	Mechanical	25000.00	17250	6500	23750	95	1250
16	Electrical	10000.00	2000	6000	8000	80	2000
	Total	\$131600.00	\$ 79070	\$ 46780	\$125850	95	5750

96

## Chapter 8

### Project Management Information Systems

The major objectives of an information system must be:

- "1. To track actual performance related to time, cost, and performance during the entire life cycle of the project, and to provide, in simple and understandable form, variances from the planned and identifiable control parameters. The information must be predictive rather than historical.
2. To provide specific information needed by individual managers in an organized and concise manner, rather than a maze of data.
3. To provide exception reports requiring the Manager's immediate attention."<sup>49</sup>

"A good information system does not guarantee a project's success. It can only provide information in relation to established guideposts and ensure that management will not be surprised when trouble occurs."<sup>50</sup>

This chapter examines two areas:

1. The management Information System (MIS) for an individual project or field office
2. A brief discussion on the agency's MIS where information could be obtained.



### 8.1 Corps of Engineers Project Management Information System (PMIS)

The Corps PMIS is a manual system which centers on the monthly "Construction Progress Report" (Fig. 8.1) and the contractor supplied, updated construction schedule.

#### 8.1.1 Schedules

The contractor is responsible for scheduling and controlling the progress of his work in such a manner that contract completion dates are met. The exact type of schedule the contractor uses may or may not be specified in the Special Provisions. Two systems are commonly used on Corps projects:

1. Bar Chart with an "S-Curve"
2. Critical Path Method (CPM)

The requirement for the use of CPM is placed on the contractor if the Contracting Officer determines that the use of a CPM would be in the best interest of the Government.

Prior to starting construction, the contractor is required to review his schedule with Corps personnel. The Corps feels that by conducting this review, the contractor has "another pair of eyes" to examine his logic and discover any errors or omissions overlooked by his own personnel.<sup>51</sup> Under the General Provisions of the contract, updated schedules are

Figure 8.1 (1 of 2)

<b>CONSTRUCTION PROGRESS REPORT</b>		<b>AS OF DATE</b> 30 April 1979		<b>AREA</b> Hartford Area Office	
1. <b>CONTRACTOR</b> Roger J. Au & Son, Inc.				2. <b>CONTRACT NO.</b> DACW33-77-C-0099	
3. <b>PROJECT AND LOCATION</b> Construction of Park River Local Protection Project Part II - Auxiliary Conduit Hartford, Connecticut 3122					
3. <b>CONTRACT AMOUNT:</b> Original \$23,248,185.00 Current \$23,238,209.00			4. <b>EARNINGS</b> This Pd. \$332,334.00 To Date \$7,591,836.00		
5. <b>AWARD DATE</b> 6 September 1977		6. <b>NTP DATE</b> ONSITE CONSTR. 27 Sep 77 29 Sep 77		7. <b>SCHED SYSTEM</b> Bar Graph	
8. <b>COMPLETION SCHEDULE</b>					
<u>Percent</u>		<u>I Scheduled Current Contract</u>		<u>II Actual</u>	
<u>III Scheduled % Pending Mods</u>					
a. All Work		51%		31.7%	
				42%	
<u>Date</u>		<u>I Original</u>		<u>II Current</u>	
		<u>III Pending</u>		<u>IV Projected or Actual</u>	
		<u>V +Days -Days</u>			
b. All Work		27 Sep 80		1 Oct 80	
		24 Jan 81		24 Jan 81	
9. <b>OPERATIONS DURING PERIOD:</b>					
a. Completed ring beam re-support installation and jack loading for outlet shaft earth support in soils. Strain gage monitoring indicating favorable response to ring jacking.					
b. Railroad switches for tunnel transition area were assembled on surface; as yet not installed in tunnel.					
c. TBM in transit via rail; 5 rail cars arrived and off loaded; 2 rail cars and 2 truck loads yet to arrive.					
d. Set steel support frame atop of 8 H-piles (crane support pad) and backfilled around same.					
e. Mobilized 5 yard REX LO-GO concrete batch plant and placed concrete pad for same.					
10. <b>DELAYING FACTORS:</b>					
a. Awaiting arrival of the remaining components of the TBM.					
b. Source as yet unidentified for pea stone packing behind concrete segments.					
11. <b>ACTIONS TAKEN TO ELIMINATE DELAYS:</b>					
a. Contractor has submitted a new sample of pea stone; concurrently undergoing laboratory testing.					
12. <b>STATUS OF EQUIPMENT, MATERIALS AND SHOP DRAWINGS:</b> Satisfactory					
13. <b>ESTIMATED ULTIMATE CONTRACT COST:</b> \$23,300,000.00					
Contractor has an acceptable Accident Prevention Plan for this project.					
SUBMITTED BY J. E. Leonard, Area Engineer			SIGNATURE <i>J. E. Leonard</i>		Page 1 of 2

Figure 8.1. (2 of 2)

RCS: NEDCD/NEDAR-1

<b>CONSTRUCTION PROGRESS REPORT</b>		<b>AS OF DATE</b> 30 April 1979	<b>AREA</b> Hartford Area Office
1. <b>CONTRACTOR</b> Roger J. Au & Son, Inc.		CONTRACT NO. DACW33-77-C-0099	
2. <b>PROJECT AND LOCATION</b>			
3. <b>CONTRACT AMOUNT:</b> Original                      Current		4. <b>EARNINGS</b> This Pd.                      To Date	
5. <b>AWARD DATE</b>	6. <b>NTP DATE</b>	7. <b>SCHED SYSTEM</b>	
14. <b>SAFETY OPERATIONS:</b>			
a. Number of recordable accidents to date:			7
b. Brief description of recordable accidents this month:			N/A
c. Number of Contractor safety meetings held this month:			5
d. Number of Contractor safety meetings attended by Government representatives this month:			5
<b>SUBMITTED BY</b>		<b>SIGNATURE</b>	Page <u>2</u> of <u>2</u>

to be submitted on a frequency determined by the Contracting Officer; this is usually monthly as an attachment to the progress payment request. The contractor is also required to provide an updated schedule after delays or changes have altered the original schedule.

#### 8.1.2 Construction Progress Report (CPR)

The CPR is the essence of the Corps PMIS. The report is prepared by the Resident or Area Engineer for each project he has responsibility for. The information contained within the form satisfies the major objectives of an information system. The form needs little explanation. An example of the report is found in Fig. 8.1.

Item 8a: Contains information on the percentage of the contract completed as follows:

- I. Required percentage under the contract as formally modified to date
- II. Actual percent complete on reporting date
- III. Estimated percentage required based on modifications in process.

Item 8b: Reports target dates as listed in the contract as follows:

- I. Date as established in the original contract

- II. Dates required by the contract as formally modified to date
- III. Estimated dates required by pending modifications
- IV. Resident/Area Engineer's realistic projected estimate of actual date to be attained by the contractor based on job conditions and all known factors at the time of the report
- V. Number of days difference between IV and III.<sup>52</sup>

During interviews with personnel of the Construction Division of NED, the question was asked as to how effective the CPR was and whether or not computerizing the report would result in a more efficient procedure. The response was unanimous in that they did not see any benefit from computerizing the reporting system and that the present system adequately met their needs.

#### 8.2 Corps of Engineers Management Information System (COEMIS)

COEMIS is comprised of three components:

1. COEMIS-Finance and Accounting (FA)

2. COEMIS-Personnel Administration (PA)
3. COEMIS-Resource Allocation/Project Management  
(RA/PM)

It is a fully automated system.

RA/PM integrates the three components of COEMIS to provide information needed by managers. RA/PM is dependent on FA and PA for much of its data. Access to the FA and PA data bases is not direct and is obtained through extract tapes.

Data extracted from the PA data base includes:

1. The number of people within each organization
2. The average effective wage rate per person in that organization.<sup>53</sup>

These two data elements are constantly changing and may have pronounced effects on RA/PM cost and manpower computations. The FA extract tape is used to input cost-related information for RA/PM reports.

The RA/PM system is organized to provide five basic types of reports, each of which presents information on activities that comprise the total logical plan of a project. Each activity contains a combination of data, and each report may be structured to provide different degrees of detail. The four basic types of reports are as follows:

1. Project milestone reports, designed for surveillance

of individual project data

2. Feature reports, designed to relate planned work to financial classifications
3. Organization reports geared for organization use
4. Consolidated reports designed for overall surveillance of District workloads.<sup>54</sup>

The RA/PM reports are either multi-year or single year reports. Each type of report is created upon request and is tailored to its particular relevance to the various levels of management. The user may select specific data required for individual reports.

Knowledge of the RA/PM system is limited among the personnel of the Construction Division at NED. This may be due to the relative newness of the system. The available literature at NED does not identify the Construction Division as having any probable uses for the system.

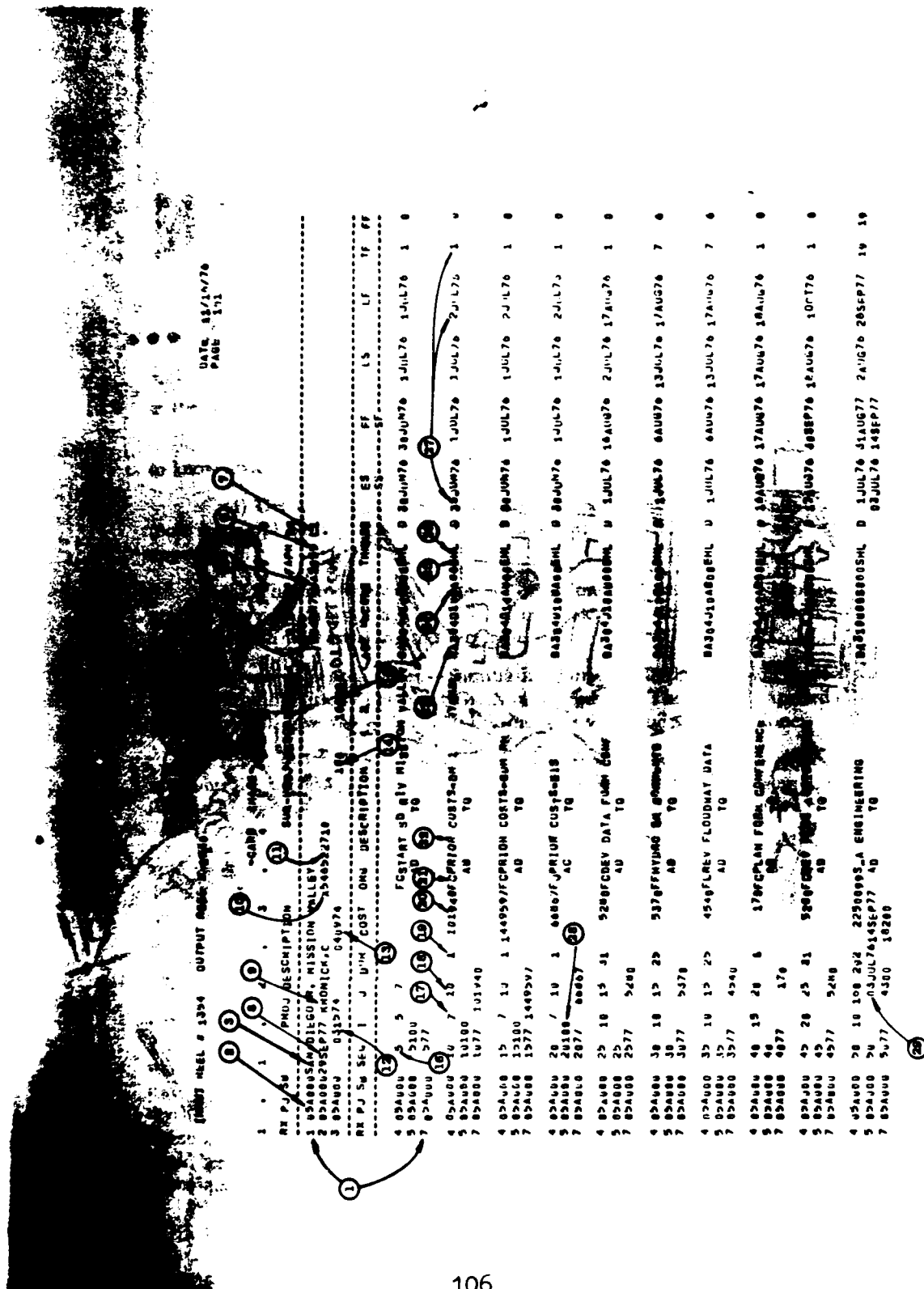
The report which appears to possess the greatest potential for use by the Resident Engineer is the "Project Milestone Report." It is basically a CPM. Figure 8.2 shows an example of a "Project Data Display Report." This data may be plotted in network form or in barchart form. Figure 8.3 illustrates the barchart option. This capability has the potential to aid in the determination of any ripple effect

### RA/PM PROJECT DATA DISPLAY REPORT

The RA/PM project data display reports all information in the project data base. A description of the various items is as follows: (1) data card number; (2) RA/PM project number; (3) project description; (4) project start date; (5) appropriation and Finance and Accounting Branch project number; (6) code 9 designates duration in days; (7) division-district code; (8) project completion date; (9) project manager's name; (10) project manager's telephone number; (11) civil-works information system (CWIS) number; (12) PB-2b actual submission date (remarks I); (13) PB-2b approved submission date (remarks II); (14) category code (remarks III); (15) preconstruction planning estimate; (16) sequence number; (17) CPM I-node number; (18, CPM J-node number; (19) activity duration; (20) activity total cost; (21) organization code for the activity; (22) activity description; (23) appropriation, feature, subfeature number; (24) task code; (25) type of funds E, K, A, L, O, M, or S; (26) activity manner code HL, CN, OA, OE, LP, or PO; (27) activity start and finish dates and activity float; (28) physical percent of activity complete; (29) manual start date for the activity (date must be between the activity early-start and late-start dates).



Figure 8.2 (2 of 2)



1. The first part of the document is a header section containing the following information:

- Page Number: 1
- Date: 10/10/2010
- Time: 10:10:10
- Author: [Name]
- Title: [Title]

2. The second part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

3. The third part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

4. The fourth part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

5. The fifth part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

6. The sixth part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

7. The seventh part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

8. The eighth part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

9. The ninth part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

10. The tenth part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

11. The eleventh part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

12. The twelfth part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

13. The thirteenth part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

14. The fourteenth part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

15. The fifteenth part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

16. The sixteenth part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

17. The seventeenth part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

18. The eighteenth part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

19. The nineteenth part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

20. The twentieth part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

21. The twenty-first part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

22. The twenty-second part of the document is a list of items, numbered 1 through 10, each followed by a description:

1. [Description]
2. [Description]
3. [Description]
4. [Description]
5. [Description]
6. [Description]
7. [Description]
8. [Description]
9. [Description]
10. [Description]

23. The twenty-third part of the document is a table with 2 columns and 10 rows, containing numerical data:

Item	Value
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

24. The twenty-fourth part of the document is a list of items, numbered 1 through 10, each followed by a description:

EXPERT GAITT BARCHART (See p. 6-3)

a modification may have on the project. Ripple effects are discussed fully in Chapter 11, "Modifications." The use of this capability when preparing for negotiations would enable the Corps to:

1. Enter negotiations with a stronger documented position
2. Enable the Resident to analyze methods of expediting work in an optimal manner
3. Reduce time spent analyzing time extensions and ripple effects.

Mr. Joseph L. McManamin Jr., Chief of the ADP Center for NED was interviewed concerning the use of the computer within the Division. He stated that the use of ADP services was growing by leaps and bounds. He stated that in the late sixties-early seventies, he had to actively solicit work from the internal divisions to maintain activity in the ADP Center. Now he no longer must solicit work for the people are coming to him. Requests for remote terminals are being placed by most internal divisions. The number of programs available to Corps personnel is increasing as well. One particular system was the Computer Aided Engineering and Architectural Design System (CAEADS) which was frequently being run.

### 8.3 NAVFAC PMIS

NAVFAC's PMIS is a combination of weekly progress meetings, contractor supplied schedules, and internally produced computer reports generated monthly.

#### 8.3.1 Weekly Meetings

LCDR Holland related that there is no formal reporting per se used by the Project Managers/AROICCs. He stated that each Project Manager/AROICC monitored his assigned projects as he saw fit. Each week the PM/AROICCs meet individually with LCDR Holland and the Supervisory Civil Engineer to report on each project and discuss problem areas. LCDR Holland expressed his satisfaction with the concept of the weekly meetings.

#### 8.3.2 Schedules

LCDR Holland stated that the most frequently utilized scheduling technique was a barchart with an "S-curve." He stated that on selected large project a CPM might be required but that most of the contracts were of such a size that a bar chart was adequate. Submission of schedules parallels that of the Corps, both in preliminary review and updated copies. Figure 8.4 is an example of a typical bar

Figure 8.4

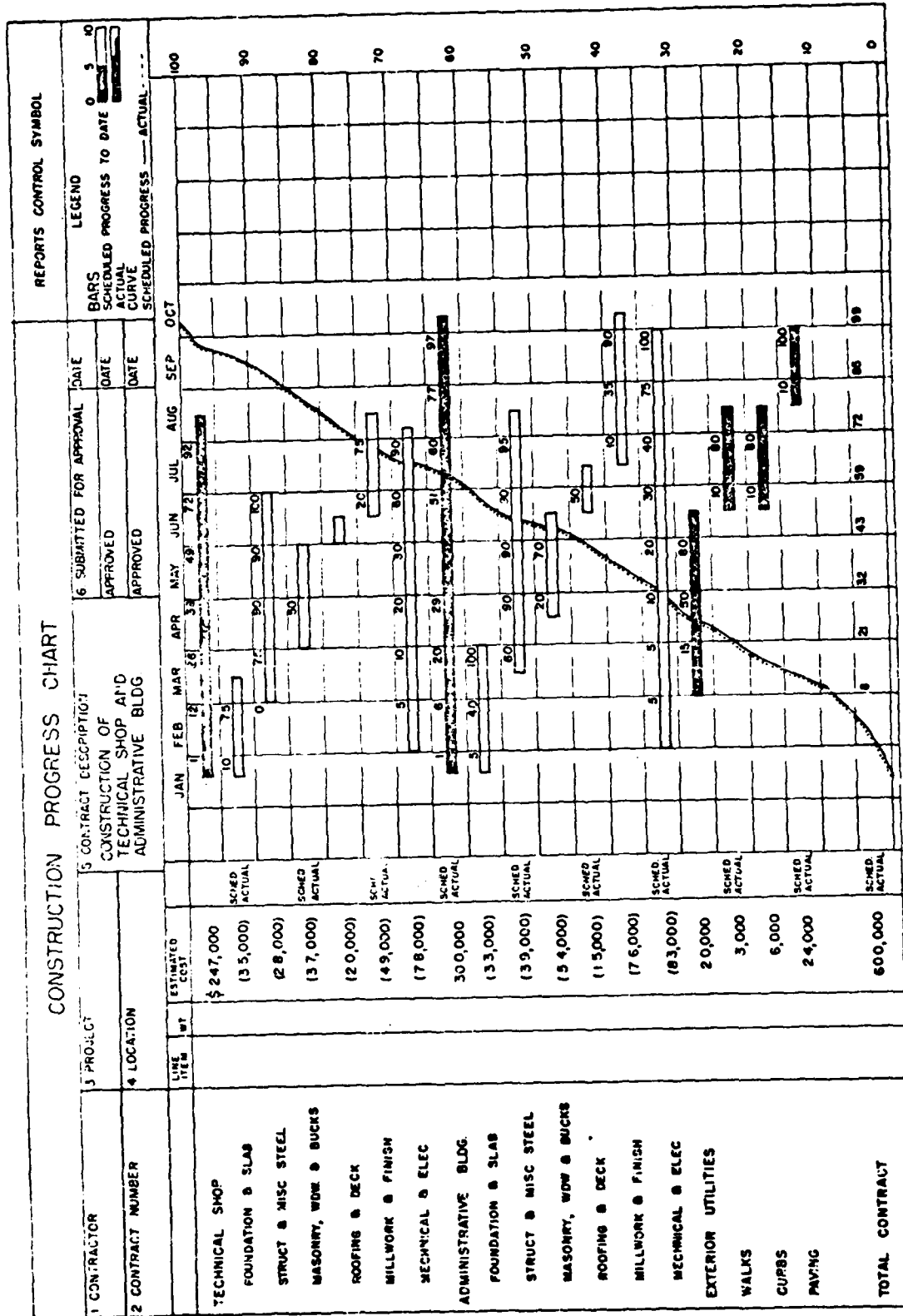


chart schedule.

### 8.3.3 Internal Monthly Reports

Each month LCDR Holland utilizes the ADP facilities on the base to generate a report for internally managing the workload of the field office. The data is compiled three ways. The first report (Fig. 8.5) lists all the currently active contracts in chronological order, identifying the Project Manager, the Construction Representative, the value and the completion date. The second report lists the contracts according to individual Project Manager and the third report lists the contracts according to the Construction Representative. Using these three outputs, LCDR Holland is able to internally balance the workload of his staff.

### 8.4 NAVFAC Engineering Field Division/Management Information System (EFD/MIS)

"EFD/MIS is a collection of interrelated ADP applications designed to serve management needs of each EFD and provide summary information to NAVFAC Headquarters, other higher authorities within the Navy, DOD, and Congress."<sup>55</sup> The current system addresses the areas of Budget, Accounting Resource Management, Design, Construction, ROICC Management

Figure 8.5

DATE OF REPORT 4/27/79		ROICC CONSTRUCTION AND SERVICE BY CONTRACT NUMBER		CONTRACT NO. PH INSP		TITLE		AMOUNT		CONTRACTOR		PAGE		COMPL DATE	
72C0146	GH	AB	POWER PLANT EXPANSION P-133					3,206,880.00		BROWNE, INC		10/31/76			
73C0189	DP	TM	DREDGING 2ND INCR P-132					2,736,145.54		WEEKS DREDGING		6/01/78			
75C0143	DP	RA	380 MAN BEG P-154					2,646,405.00		JS NASIN CO		5/07/79			
75C0439	GH	AB	BOILER FW IMP P-133					604,178.00		BECKER & GOLOSTN		11/26/77			
76C0094	DP	TM	REPAIR TRAINING TANK BLDG TO P-191					668,535.00		HART ENGINEERING		5/01/78			
76C0108	GH	AB	REPAIRS TO BLDG 29					382,737.00		GROTON PIPING		9/29/78			
76C0213	GH	RA	DAMAGE CONTROL TRAINING BLDG P-195					410,865.00		JS NASIN CO		4/14/78			
76C0214	ER	RA	SCNAR OPS TRNG FACILITY P-751					192,688.00		BARTELS CONST		1/04/79			
76C0237	JS	JM	ALT. FIRE PROT SYSTEM BLDG 449												
76C0538	WP	TM	STORAGE FACILITIES & DISPOSAL P-312					198,700.00		SHAROCK ASSOC		10/10/79			
76C0680	JS	AB	VARIOUS ELECTRIC REPAIRS					224,304.00		DUCCI ELECTRIC		6/01/79			
76C3344	DP	SUB	GARBAGE, TRASH COLLECTION					94,723.00		TINNERELLO & SCNS		6/30/78			
77C0107	OP	CVD	REPAIR COND RCVR STATIONS					224,800.00		JAMES T KAY		11/10/78			
77C0112	ER	JM	BLDG PCS SECURITY GROUP HARTFORD					36,284.00		MULTI-SERVICE		1/22/79			
77C0128	ER	AB	UTILITIES IMPROVEMENT P-192					2,792,506.00		BICK-COM		6/05/80			
77C0191	JS	VA	SHIPS WASTEWATER - NUSC					313,000.00		BARRY ASSO		8/13/79			
77C0224	DP	RA	ADDITION TO BLDG 427 P-308					1,618,800.00		R.J. SULLIVAN		7/05/80			
77C0252	ER	JM	LIGHTING, MRC, HARTFORD					17,625.00		NELSON ELEC		8/15/79			
77C0271	OP	AB	SUB REPAIR SUPPORT FAC P-097												
77C0277	JS	VA	REPL HTG PLANT BLDG - NUSC					1,381,480.00		JL MARSHALL		10/07/79			
77C0298	ER	JM	REPAIRS TO BLDG 150					264,141.00		BARTELS CONSTR		1/31/79			
77C0303	DP	TM	REPAIRS TO QUAYHALL					287,688.00		SPEARIN, PRESTON		7/16/79			
77C0304	ER	CVD	HOSE STORAGE BLDG					301,881.00		FORT HILL BLDGS		9/03/79			
77C0378	ER	AB	ALT TO BLDGS 40 & 456					38,320.00		MG ALLEN		6/12/78			
77C0384	WP	CVD	SANITARY SEWER IMPROVEMENTS P-196					1,075,000.00		GROTON PIPING COR		10/24/79			
77C0385	WP	RA	SEA NYMPH TR BLDG P-325					1,139,000.00		R.J. SULLIVAN		11/08/79			

and Program Management.

Prior to the advent of EFD/MIS, there were many systems, manual and automated, developed locally by EFDs in an attempt to meet EFD information requirements. These local systems had to be used redundantly with other Headquarters systems requiring the same data to be loaded into multiple systems ... None of this was integrated, and more often than not information or data in one system could not be reconciled to another without an inordinate amount of manual effort ... With EFD/MIS there is automatic data exchange ..."<sup>56</sup>

There are currently 12 Data Systems available:

1. Integrated Disbursing and Accounting (IDA)
2. Integrated Program Management System (IPMS)
3. Construction Management System (CMS)
4. Construction Management Technique (CMT)
5. Design Management Information System (DMIS)
6. Computer Aided Specifications System (CASS)
7. Computer Aided Cost Engineering System (CACE)
8. Computer Aided Design System (CAD)
9. Utilities Procurement Analysis (UPA)
10. Personnel Management Information System (PMIS)
11. Computer Assisted Utility System Engineering (CAUSE)



## 12. Contractor Information System (CIS)

Of these 12 systems, two are applicable to the OICC/ROICC field office:

1. CMS
2. CMT

### 8.4.1 Construction Management System

"NAVFAC Headquarters and EFDs are provided with various reports to monitor the acquisition process (design and construction). The reports produced from this system consist of various Project Status Reports (used by EFDs and Headquarters), Contract Status Reports, (used by EFDs and ROICCs) and Work in Place Reports (used by Headquarters and EFDs)."<sup>57</sup>

LCDR Holland reported that his involvement with CMS was rather minimal. His involvement was with the updating of two reports, the "Projected Work in Place Report" and the "Status of Construction Contracts Report." The "Projected Work in Place Report" is used by the EFD to justify the budgets of each ROICC office. In the report, the ROICC identifies his future workload as justification of his staffing requirements. The "Status of Construction Contracts Report" shows the actual physical construction progress. Both reports occur on a monthly basis.

#### 8.4.2 Construction Management Techniques

"This application provides ROICCs with the capability of managing contracts and monitoring construction project progress through the use of a CPM scheduling and progress reporting system. It automatically generates invoices for payment and payment vouchers."<sup>58</sup>

CMT was not in use at the New London ROICC office. The computer facility containing the EFD/MIS is located at the Northern EFD at Philadelphia with no direct access presently available at New London. The time lag between sending the data to Philadelphia for processing and returning the output, appears to make the use of this system in New London impractical at this time.

#### 8.5 USPS Project Management Information System

The USPS's PMIS closely parallels that of NAVFAC with weekly progress meetings, contractor supplied schedules and computer generated status reports.

The weekly meetings are conducted with individual Project Coordinators to review the contracts under their purview. Problem areas are identified and possible solutions discussed.

As with the Corps and NAVFAC, the bar chart with "S-

Curve" is the most prevalent technique of scheduling USPS projects. Again the opinion was that the type contracts awarded did not really necessitate the use of CPM. The requirements for submitting schedules are the same as NAVFAC and the Corps.

The monthly status reports are sent out from the Regional Office in New York to each Project Coordinator. Upon receipt the Project Coordinator updates one copy and returns it to the Regional Office for processing. As with the OICC/ROICC Office at New London, the New England FREBO has no direct access to a computer facility and therefore makes little use of computer techniques.

## Chapter 9

### Quality Management

The Corps' and NAVFAC's Quality Management programs are very similar, therefore, their programs will be discussed in a parallel fashion with their differences highlighted. The USPS program will be discussed separately.

NAVFAC's and the Corps' quality management systems for large projects are unique to the industry. The systems involve the joint but separate efforts of the contractor and government personnel to achieve the level of quality prescribed by the contract documents. Their contracts are written on the premise that the contractor is the most knowledgeable on how to control his operation. Government inspection practices are designed to provide the contractor's work force with guidance, not supervision. The inspection practices are such that the inspector notes that the work in progress will not meet the specified end result and so advises the contractor. Corrective actions are the responsibility of the contractor, unless the specifications are at fault.<sup>59</sup> NAVFAC and the Corps have two basic responsibilities concerning Quality Management:

1. Establishing the contract requirements for the

construction contractor quality control (CQC)

2. Performing quality assurance activities.

#### 9.1 Establishing Contract Requirements

Establishing the contract requirements contained in the Special and Technical Provisions of the specifications requires an analysis of the conditions affecting each contract. Some factors in this analysis are:

1. Location, complexity, size, duration and contract type of the project
2. Character of the construction labor market and construction practices in the area
3. Amount and character of off-site fabrication
4. Specification requirements, i.e., performance end-result, or method specifications
5. Materials and drawings requiring special Governmental approval.<sup>60</sup>

The Special Provisions outlined the quality control and management program the contractor must establish and the Technical Provisions specify material and workmanship quality requirements.

#### 9.2 Contractor Quality Control System (CQC)

The CQC requirements are spelled out in the Special Provisions of the contract. The CQC plan is viewed as the means by which the contractor assures himself that the work will be in compliance with the contract requirements. The contractor's control and management of on-site construction is divided into three phases for all definable features of work as follows:

1. Preparatory Phase
2. Initial Phase
3. Follow-up Phase

The Preparatory Phase is performed prior to beginning work on each definable feature of work. It includes a review of contract requirements; a check to assure that all materials have been tested, submitted, and approved; a check that provisions have been made to provide required control testing; and a check of the work area upon which new work is to be placed, to verify that work over which new work is to be placed conforms to contract requirements. The contractor must notify the Resident 24 hours in advance of each Preparatory Phase.

The Initial Phase is accomplished at that time of the arrival of workmen on-site to accomplish a definable feature of work, or any time workmen or crews are new on the site.

The contractor's control system must permit the transfer of information on quality requirements to each workman before he starts, demonstrations from each workman that he can provide the specified quality of work, and motivate him to continue. It is also during this phase that control testing to prove the adequacy of the contractor's control procedures shall be initiated and verified. Again the contractor gives 24 hour notice prior to beginning each initial phase activity.

The followup phase is continuously performed to verify that the control procedures are providing an end product which complies with the contract requirements. Adjustments to control procedures may be required based upon the results of this phase and the control testing.<sup>61</sup>

Determining the number and qualifications of CQC personnel is the contractor's responsibility. The contractor is instructed to carefully examine the contract requirements for CQC and frame his staff accordingly. The contractor submits the names and qualifications of all personnel assigned a CQC function; and the area of responsibility and authority for each named individual. The contractor must additionally identify an individual on-site, as the responsible person for overall management of the CQC program and has authority

to act in all CQC matters as the contractor's agent. There should be an optimum balance between economy of operations and the level of effort required for each phase of construction; but the final proof of adequacy is the quality, or lack of quality achieved.

#### 9.2.1 Testing

All specific requirements for sampling and control testing are contained in the Technical Provisions of the contract. NAVFAC will furnish a compiled list of required tests to the contractor,<sup>62</sup> whereas the Corps requires the contractor to furnish a list of tests he believes he is responsible for.<sup>63</sup> The NAVFAC contractor resubmits the list of tests keyed to the construction schedule, adding what test is to be performed, when the test is to be performed, and by whom the test is to be performed. The Corps contractor submits his list containing the test name, specification paragraph containing the requirement, the personnel and laboratory responsible for each test. Standard test procedures are used to the maximum extent practicable. NAVFAC contracts invariably leave all the testing to the contractor and does not perform quality assurance tests.<sup>64</sup> The Corps may wish to retain responsibility for certain tests, i.e., soil tests for an earth and



rock dam. Those tests are noted as the Corps' responsibility in the Technical Provisions.

In order to perform the necessary testing, the contractor may:

1. Obtain the services of an industry recognized testing laboratory approved by the Contracting Officer
2. Establish an approved testing laboratory at the project site
3. He may elect a combination of the two above.

The Government has the right to check the laboratory equipment in the proposed laboratories and also check the laboratories' technicians' testing procedures and techniques.

LCDR Holland stated that this is rarely done from his office because he felt that his office knew of the laboratories in the area and their relative competence. The Corps stated that on occasion they did exercise this option.

The Corps may also use the contractor's control testing laboratory and equipment to make their quality assurance tests, at no cost to the Government.

#### 9.2.2 CQC Reports

The contract requires the contractor to submit reports

daily on his CQC activities. The reports are used as a means for evaluating the thoroughness and adequacy of his construction control. Neither the Corps nor NAVFAC have standard forms for this report. The manner and format in which the information is transmitted is a matter of the contractor suggesting a format and the Government accepting. The reports are factual records of the contractor's daily quality control activities and resulting actions.

The Corps wants the following items included:

1. Construction in progress
2. Phase and location of control activities
3. Deficiencies and corrective action taken
4. Tests performed and results
5. Submittal status
6. Materials and equipment arriving on-site
7. Off-site surveillance activities
8. Job safety.<sup>65</sup>

NAVFAC requires the following information included in the CQC report:

1. Number of personnel on-site
2. Equipment on-site
3. Idle equipment and personnel
4. Material deliveries

5. Weather conditions
6. Work accomplished
7. Inspections conducted and results
8. Tests performed and results
9. Deficiencies found, cause, and corrective action.

The contractor must submit his CQC plan to the Contracting Officer prior to the start of construction for approval. Construction is permitted to begin only after approval of the CQC plan or approval of that portion of the plan applicable to the particular work item to be started. The CQC plan the contractor proposes must identify the personnel, procedures, instructions, records, and forms which will comprise the system.

#### 9.2.3 Government Review

The first step in the review procedure is comparing the plan with the specific requirements found in the Special and Technical Provisions of the contract. Secondly, the plan is examined for its feasibility. This is based on knowledge of the contract requirements, the project itself, and the proposed contractor organization. If the plan is not deemed feasible, specific recommendations as to changes are made.

The following are key points when reviewing the

contractor's plan:

1. Does the plan adequately cover control of all features of the contract
2. Is the CQC staff adequately sized to maintain quality and accomplish tests required
3. Has the person or persons responsible for each definable feature of work, all tests, and submittal control and review been identified
4. Do the qualifications of the staff appear adequate for the control and test requirements
5. Is the delegation of responsibility and authority to the CQC representative clear
6. Are the organizational lines of authority and responsibility clear
7. Are individual control and test duties clearly assigned
8. Do the proposed control and test report forms include all the required features and reporting items.<sup>66</sup>

Approval of the plan is predicated on satisfactory performance during construction. Therefore, any approval is conditional as the Government has the right to require changes in the CQC plan as necessary to obtain the specified quality.

### 9.3 Quality Assurance

The Government's Quality Assurance program is intended to ensure that the contractor's Quality Control program is performing adequately. In the preliminary stages of the project, the quality assurance (QA) personnel attempt to get a clear understanding of the contract requirements before reviewing the CQC plan or meeting with the contractor. At the first meeting with the contractor, the QA personnel attempt to establish a working relationship which is cooperative and professional. The Government wants to establish a team atmosphere as opposed to the more traditional adversary atmosphere.

When questioned as to how closely the QA personnel and the QC personnel worked, both Mr. Carlson of NED and LCDR Holland of NAVFAC, emphasized "very" closely. On small projects they stated that in some cases the QA personnel actually performed as the QC personnel. LCDR Holland when asked what type of person does he prefer the CQC representative to be, stated that he found recent college graduates to be the best. He stated that the recent graduate usually was more conscientious about his work and that the QA personnel had to occasionally mediate disagreements between the job superintendent and the CQC representative.

During the actual construction of the project, QA personnel participate in all three phases of the CQC plan. The degree to which the QA personnel directly monitors the project varies with:

1. The confidence in the integrity and capability of the contractor
2. The criticality of the particular feature of work in progress

QA personnel usually split their work day between direct inspection of the work and reviewing the contractor's records.

The authority of the QA personnel differs between Corps and NAVFAC personnel. The Corps QA personnel may not direct the contractor to correct a deficiency. He may only pass on his observation of the deficiency to the superintendent. In most cases the superintendent will bring about compliance.<sup>67</sup> If the superintendent does not initiate corrective action the QA personnel must notify the Resident Engineer who will then direct the superintendent to comply.

The NAVFAC QA personnel have the authority to direct the contractor to correct deficiencies. The QA personnel fill out a "Contract Construction Compliance Notice" (Fig. 9.1) and hands it to the superintendent. The contractor must comply with the notice, take corrective action and

Figure 9.1

# CONTRACT CONSTRUCTION COMPLIANCE NOTICE

NAVJAG 4330/36 (2-72)  
S/N 0175-LF-031-9780

This is prepared on CARBONLESS paper.  
Tear off a complete set BEFORE filling in.  
See additional instructions on reverse side.

1 CONTRACTOR		3 NOTICE NUMBER
2 CONTRACT NUMBER, PROJECT, AND ACTIVITY		4 DATE
5 SPEC PARAGRAPH AND/OR DRAWING NUMBER	6 REFERENCE ( <i>Shop Drawing, Certification, CCC Report Number</i> )	
7 DEFICIENCY IN WORKMANSHIP AND/OR MATERIAL	8 CORRECTIVE ACTION	

This Notice does NOT authorize any work not included in the contract and shall not constitute a basis for additional payment or time.

If you are in disagreement with this Notice, contact the Resident Officer in Charge of Construction immediately.

9A. NAVY CONSTRUCTION REPRESENTATIVE

DATE NOTED	SIGNATURE AND TITLE
------------	---------------------

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9B. ROICC/ROICC REPRESENTATIVE

DATE ISSUED	SIGNATURE AND TITLE
-------------	---------------------

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10. CONTRACTOR'S ACKNOWLEDGMENT

DATE RECEIVED	SIGNATURE AND TITLE
---------------	---------------------

**C-17040**

## INSTRUCTIONS

This form is applicable to construction contracts accomplished under the cognizance of the Commander, Naval Facilities Engineering Command, with the exception of the Republic of Vietnam, Thailand, Laos, and Cambodia.

Distribution of completed form: Original (white) and one copy (white) to Superintendent or CQC Representative  
One copy (pink) to Contractor's home office  
One copy (blue) to ROICC designated representative  
One copy (yellow) to ROICC office

Item No. 3: NOTICE NUMBER - Number consecutively for each job with only ONE DEFICIENCY noted.

Contractor: Complete Item 10 as appropriate. If this is a CQC job, indicate corrective action on daily CQC report.

note what action was taken on his daily report. The NAVFAC approach appears to be the optimum situation in that it saves the Project Manager's time.

#### 9.4 Inspectors

NAVFAC and Corps inspectors are hired from a Civil Service list. Qualification requirements are minimum and construction experience is desired. Both agencies have formal training programs for its personnel which includes on the job training and classroom instruction. The classroom instruction is sponsored by many Federal agencies and is conducted at the agency's installations or at collaborating colleges and universities. Seventy percent of the courses sponsored by the Corps are technical in nature and the remaining 30% either managerial or administrative. Enrollment in non-Federally sponsored courses is encouraged with the cost reimbursable if the course will aid in the inspector's advancement.

Both agencies encourage their inspectors to acquire expertise in more than one discipline. This may be formally done through study, or informally by accompanying the assigned inspector during an inspection.



### 9.5 Enforcement Options

The contract provisions provide both agencies with various means to assure contractor compliance with the requirements in the contract. Adequate, historical documentation is obtained before enforcement options are utilized to preclude later claims against the Government. The following options are available to the Government:

1. Removal and replacement of deficient materials  
or workmanship at the contractor's expense
2. Withholding of funds
3. Requiring removal of CQC personnel if they prove  
to be incompetent
4. Stop work pending correction of deficiencies
5. Contract termination

### 9.6 Common Failures of CQC Plans

The stated objective of the CQC system is not to spot deficiencies but to prevent them from occurring. The mere fact that a deficiency exists indicates that the CQC plan must be corrected to eliminate the flaws in the plan. Failures in contractor implementation of quality control vary, but most have been found to fall within the following

categories:

1. Delays in submittal, in correction, and approval of the CQC plan
2. Lack of control planning, control and failure to take corrective action
3. Improper, inadequate or untimely control testing
4. Incomplete, incorrect documentation of control action and testing
5. Apathy of contractor's top management.

The last category is the one which is the hardest to correct. The first four may be corrected quickly, but apathy of top management may mean the plan has no chance of success.

#### 9.7 USPS Quality Management Program

When the USPS contracts for an A/E's services, it will specify the number of hours a week the A/E is required to spend inspecting the project. As discussed in Chapter 2, the USPS has evaluated the qualifications of the A/E to perform inspections and found them to be adequate. Being an agent of the USPS, the A/E has the authority to reject work and direct that it be corrected.

Testing is performed by an independent testing laboratory under the supervision of the A/E. The contractor is

responsible for the coordination of the testing program, ensuring the laboratory and the A/E are reminded of the required tests which are upcoming. Results of the tests are distributed by the testing laboratory to the contractor, A/E, and the Project Coordinator.

The USPS has the same options for enforcing contract compliance as does the Corps and NAVFAC. The Quality Management program of the USPS closely parallels that which is used by private industry.

## Chapter 10

### Submittals

An important aspect of the Quality Management Program which was not discussed in Chapter 9 was submittals. Items which are identified in the contract provisions as requiring approval prior to incorporation into the construction project are referred to as submittals. These items may include shop drawings, manufacturer's literature, material samples, guarantees, calculations, and the proposed construction schedule. This list is by no means inclusive and may be expanded or reduced as the situation dictates. The purpose of submittals is to ensure that the contractor has planned to incorporate into the work, materials and equipment which are of the quality specified. Required submittals should be submitted in a timely manner to allow for review, approval, procurement, delivery and Government inspection prior to its being required in the construction process. Late submittals result in delays in deliveries and may delay the construction completion date. Likewise, submittals which are hurriedly put together and forwarded probably will be rejected resulting in the submittal being late due to resubmittal. These delays result in increased costs.

### 10.1 Corps of Engineers Submittal Process

The Corps' policy is that primary responsibility for overall management and control of contractor's submittals lies with the prime contractor. The Corps assigns the overall monitoring of the contractor's submittal process to the Construction Division; and the review, checking and approval of submittals to the Engineering Division with the exception of specified items to be acted upon by the Resident Engineer.

The Corps strongly encourages the contractor to use CPM scheduling to control the submittal process. If the contractor does not elect to use CPM, he will use ENG form 4288 (Appendix E1) as the submittal control document. The contractor includes the following information on his submittal control form:

1. A list of submittals, with references to the applicable paragraph in the contract specifications or sheet of the contract drawings, in chronological order
2. The dates the contractor proposes to furnish the submittal
3. The dates the equipment, material, etc. is required at the job site

4. The dates by which he needs concurrent action on those features which he has designated to vary from contract requirements, and approval action on submittals for which the contract documents identify Government approval
5. Reviewing agency.<sup>68</sup>

The contractor is allowed a designated number of calendar days from the receipt of the Notice to Proceed to prepare and submit the control document. After review, copies of the control document are distributed to:

1. Construction Division
2. Resident Engineer
3. Technical Engineering Branch
4. A/E (if applicable)
5. Contractor

Submittals may be reviewed by any one of three organizations:

1. Resident Engineer
2. Engineering Division
3. A/E

In some cases, submittals are merely information copies of items designated as contractor approved. Determination of the appropriate reviewing organization is made during the

preparation of the final contract documents and included in the Special and Technical provisions of the contract.

Each submittal is accompanied by ENG Form 4025 (Fig. 10.1). Figures 10.2 and 10.3 are flow charts of the process indicating the number of copies needed and their recipients. Submittals are stamped:

1. Approved
2. Conditionally Approved
3. Disapproved
4. Approval not required

When the submittal has been approved or approval is not required, the process moves smoothly. In cases where approval is conditional or disapproved, the person making the recommendation must furnish concise comments on the conditions to be met, or precisely why the submittal is unacceptable. All copies of disapproved submittals are sent back to the contractor along with the applicable comments and one copy of ENG Form 4025. The remaining copies are then routed through the system.

When substitutions or waivers of contract provisions are involved in a submittal, the contractor includes a forwarding letter explaining the reasons for the request for waiver with the submittal. If the substitution or waiver is approved,





Figure 10.2

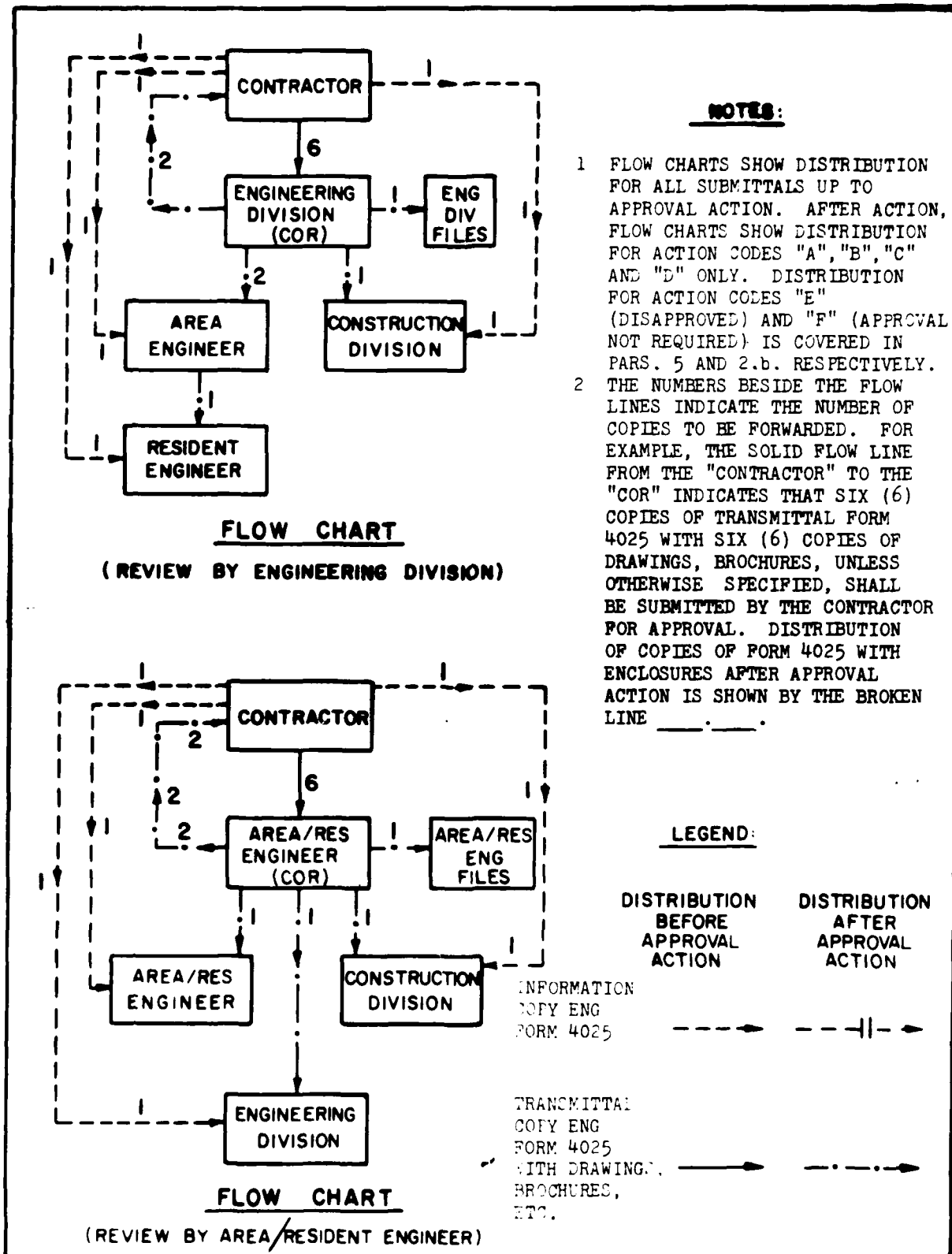
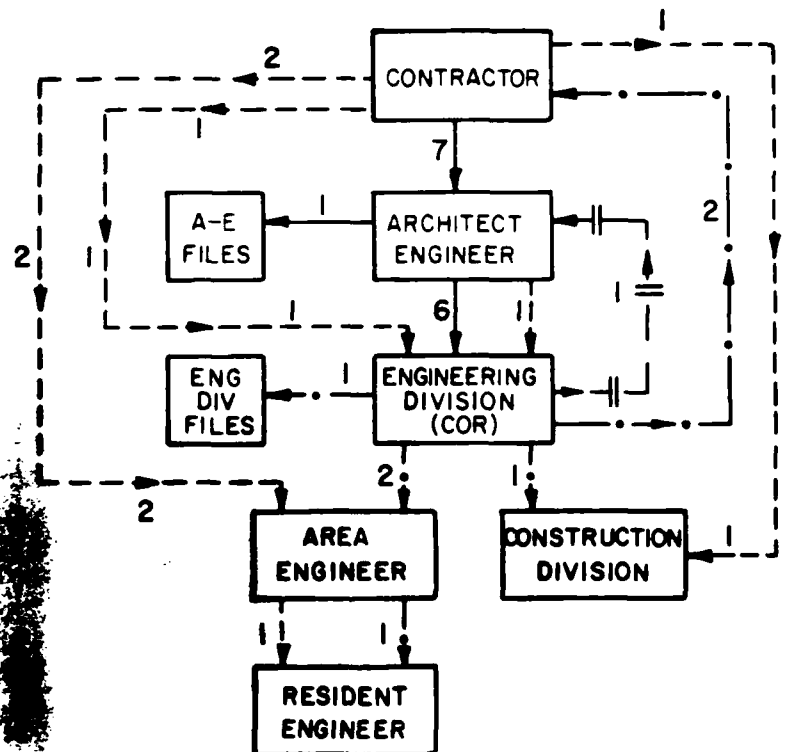


Figure 10.3



FLOW CHART

( REVIEW BY ARCHITECT-ENGINEER )

FOR LEGEND AND NOTES, SEE PAGE I, THIS ENCLOSURE

and if there is an increase or decrease in contract price involved, the contractor is notified that a change order is needed and must go through the modification process before final approval. If there is no price adjustment necessary, the contractor is routinely notified. Waivers or substitutions are approved only if there is an obvious necessity for the change or if a distinct and substantial advantage to the Government will result from the changes proposed.

Final approval of the contractor's submittals may only be made by the Contracting Officer or a Contracting Officer's Representative who is an appropriately qualified employee of the Government. The Contracting Officer will usually designate, in writing, the Resident Engineer and the Chief, Technical Engineering Branch, Engineering Division as his authorized representatives for the purpose of approving shop drawings.

#### 10.2 NAVFAC Submittal Process

NAVFAC includes a list of the required submittals in the Special Provisions. The monitoring of the contractor's submittal process is not as formal as that of the Corps. The NAVFAC contractor is not required to submit a submittal control document and there is no formal mechanism for the NAVFAC

Project Manager to monitor the submittals, he is left to control the process as he sees fit.

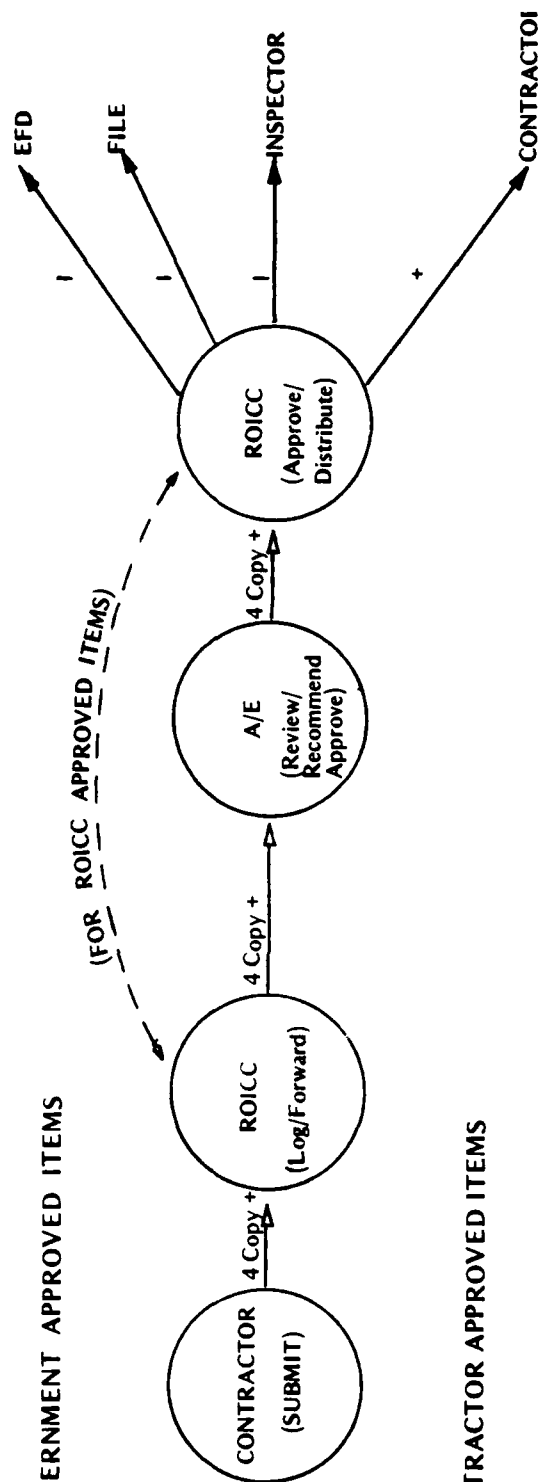
Figure 10.4 contains a flow chart of the submittal process. The contractor forwards six copies of the submittal to the Project Manager. The Project Manager completes six copies of NAVFAC Form 4335/3 (Fig. 10.5) and forwards five copies of the submittal and the form to the appropriate reviewing agency. Again four recommendations may be made. Approved or approval not required submittals flow smoothly. The Project Manager has the authority to approve submittals based on the reviewing agencies comments. Conditional approvals or disapproved submittals are returned to the contractor with a letter stating the reasons for the action.

Submittals which involve waiver or substitutions are accompanied by a letter explaining the reasons for the waiver or substitution. The submittal is forwarded to the reviewer for comment. The submittal is then handled in much the same manner as the Corps does. If the waiver or substitution benefits the Government or is necessary, it is approved. Any price adjustment necessary is made through the modification process.

### 10.3 USPS Submittal Process

# SUBMITTAL FLOW CHART

## I. GOVERNMENT APPROVED ITEMS



## II. CONTRACTOR APPROVED ITEMS

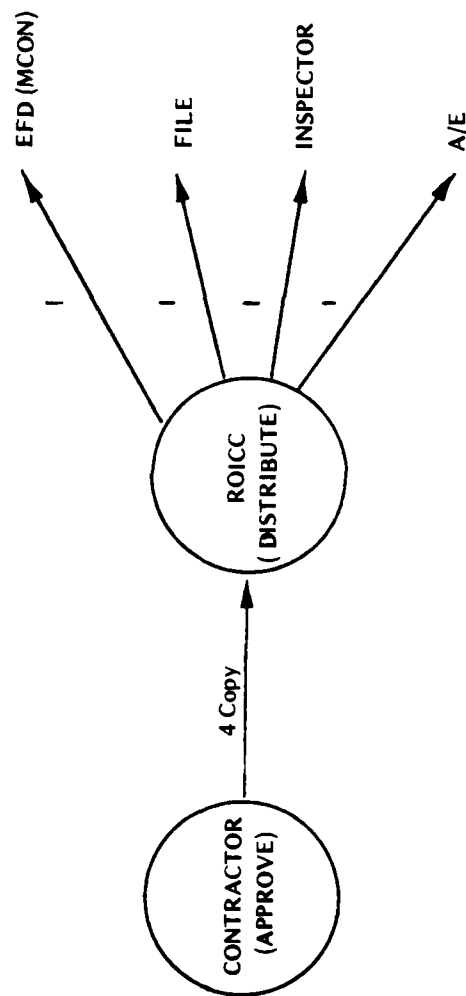


Figure 10.4

Figure 10.5

**CONTRACTOR DRAWINGS & INFORMATION SUBMITTAL**  
 NORTHNAVFACENGCOM 4335/3 (6-71)

 Prepare in quintuplicate (original and 4 copies)  
**CONTROL NO.**

<b>CONTRACT NO.</b>	<b>ACTIVITY LOCATION</b>
<b>PROJECT TITLE</b>	
<b>FROM:</b> ROICC	<b>DATE</b>
<b>TO:</b> DESIGNER	<b>DATE</b>

1. THE CONTRACTOR SUBMITTALS LISTED BELOW ARE FORWARDED FOR YOUR REVIEW AND APPROVAL:
  - (a) APPLY APPROPRIATE STAMP IMPRINT TO EACH SUBMITTAL AND INDICATE REVIEW COMMENTS, AS REQUIRED.
  - (b) RETAIN ONE (1) COPY OF THIS TRANSMITTAL FORM AND RETURN REMAINING COPIES WITH REVIEWED SUBMITTALS TO ROICC.
2. THESE SUBMITTALS SHOULD BE RETURNED TO THIS OFFICE BY \_\_\_\_\_
3. \_\_\_\_\_

COPY TO:

☐ ROICC (1 copy)

SIGNATURE AND DATE

<b>FROM:</b> DESIGNER	<b>DATE</b>
<b>TO:</b> ROICC	<b>DATE</b>

1. THE SUBMITTALS LISTED BELOW HAVE BEEN REVIEWED AND ARE RETURNED, WITH ACTION TAKEN AS INDICATED.
2. \_\_\_\_\_

COPY TO:

☐ DESIGNER (1 copy)

SIGNATURE AND DATE

<b>FROM:</b> ROICC	<b>DATE</b>
<b>TO:</b> CONTRACTOR	<b>DATE</b>

1. THE SUBMITTALS LISTED BELOW HAVE BEEN REVIEWED AND ARE APPROVED/DISAPPROVED AS SHOWN BELOW, AND ON EACH STAMP IMPRINT.

COPY TO:

☐ ROICC

☐ OTHER

 FOR COMMANDING OFFICER, NORTHERN DIVISION  
 NAVAL FACILITIES ENGINEERING COMMAND

DATE

ITEM NO.	SUBMITTAL DESCRIPTION	PREPARED/SUBMITTED BY	APPROVED	DISAPPROVED	REMARKS

The USPS includes in the Special Provisions of the contract a schedule of submissions listing all required submittals, much the same as NAVFAC does. Like the Corps, the contractor is given a designated time period in which to complete the schedule and forward it to the A/E for review. The contractor completes the schedule by inserting the dates of:

1. First scheduled submission
2. Scheduled start of fabrication
3. Scheduled arrival at site.

The number of copies required is determined by the A/E. All submittals are forwarded to the A/E who has approval authority for all submittals, to include waivers and substitutions. The A/E does not have contractual approval for the USPS, therefore any approval of waiver or substitutions must first be coordinated with the Project Coordinator to start the modification process.

## Chapter 11

### Modifications

After a contract is awarded, a means of changing its provisions is by the issuance of a contract modification. Modifications are of one of two types; change orders or supplemental agreements. Change orders are used when making changes which are within the general scope of the project. Change orders are the most common modification, they are always negotiated, and therefore costly and time consuming. A significant portion of a Resident Engineers time is devoted to the processing of change orders. Supplemental agreements are changes which are outside the general scope of the existing contract requirements. It is basically a new contract which must be founded on offer, consideration, and acceptance. The Government is reluctant to use this type of modification because it is basically a new contract and should be advertised and competitively let. Circumstances may exist which may warrant the issuance of a supplemental agreement. Two examples of such circumstances would be where:

1. The work to be accomplished is so interrelated with the current project that the utilization



of a separate contractor is impracticable.

2. The site is so remote and the amount of work so small that obtaining bids from other contractors is impracticable.

#### 11.1 Contract Clauses Authorizing Modifications

There are several clauses contained in Government contracts which authorize or lead to modifications, these are:

1. "Changes" Clause
2. "Differing Site Conditions" Clause
3. "Termination for Default-Damages for Delay-Time Extensions" Clause
4. "Suspension of Work" Clause
5. "Federal, State and Local Taxes" Clause
6. "Government-Furnished Property" Clause
7. "Price Reduction for Defective Cost or Pricing Data-Price Adjustments" Clause
8. "Value Engineering Incentive" Clause
9. "Variations in Estimated Quantities" Clause

The "Changes" Clause is by far the most significant. By virtue of this clause, the Government is entitled, unilaterally, to change the contract specifications and hold the contractor to performance under the unilaterally changed

contract. The rights of the contractor are protected to the extent that the clause provides for equitable compensation, if warranted. If agreement cannot be reached on the amount of compensation, relief for the contractor is sought through the "Disputes" Clause, which is developed fully in Chapter 12. The net effect of these two clauses is to provide a fair procedure for the administration of a contract which is designed to permit the Government to satisfy its needs as expeditiously as possible.<sup>69</sup>

The "Differing Site Conditions" Clause is intended to provide an orderly procedure for an equitable adjustment for conditions encountered which are different from those assumed or represented by the contract documents. The Clause specifies that the Government is assuming the risk of differing site conditions. This is done on the assumption that the contractor will submit a lower bid because he does not have to include a contingency factor to cover the risk of encountering differing site conditions. Modifications under this clause are usually bilateral since the parties have agreed that a different condition exists and will have worked out an equitable adjustment.

The "Termination for Default-Damages for Delay-Time Extensions" Clause recognizes the fact that even a diligent

contractor may encounter unanticipated delays beyond his fault and negligence (i.e. acts of God, acts of the Government, strikes, unusually severe weather). The Government has determined to accept such time risks itself. Thus the clause provides that any delay in the completion beyond the control and without the fault or negligence of the contractor and subcontractors or suppliers are to be considered an excusable delay and that an extension of contract time will be granted. To secure this extension the contractor must notify the Contracting Officer in writing of the cause of the delay within ten days. The existence of an excusable delay and the length of time extension are both negotiable items. The burden of presenting the case and defending his contention lies with the contractor, therefore his request may result in no extension, a bilateral change or a unilateral change.

The "Changes" Clause allows for a time extension but no increase in the contract price as a result of acts of the Government that cause excusable delay. The "Suspension of Work" Clause allows for the contractor to receive compensation for Government-caused delays. Profit is expressly excluded from this compensation, therefore it is in the best interest of the contractor to try and obtain an equitable adjustment under either the "Differing Site Conditions"

Clause or the "Government-Furnished Property" Clause which allows for profit.

The "Federal, State, and Local Taxes" Clause provides that if during the performance of the contract a new Federal excise tax or duties become effective, or conversely if they become ineffective, and the monetary impact on the contract exceeds \$100, an adjustment in contract price will be made to reflect the actual variation, either upward or downward, in the contract price. This clause specifically excludes adjustment in "social security taxes" or other employment taxes.

The Government may find it advantageous to furnish Government-owned property to the contractor for incorporation into the project. In some cases the Government is not able to furnish the property in accordance with its commitment for sundry reasons. In these cases the duties and obligations of the parties vary from those established in the basic contract. Accordingly, a contract modification is necessary to adjust the rights of the parties. The "Government-Furnished Property" Clause provides the vehicle for an orderly adjustment to the situation.

The "Price Reduction for Defective Cost or Pricing Data" Clause provides that if the Contracting Officer determines

that any price, including profit, negotiated for any modification in excess of \$100,000, was increased by any significant sums because the contractor or subcontractor furnished incomplete or inaccurate cost or pricing data, then based upon the correct information, the Contracting Officer will issue an unilateral change order reducing the price.

The "Value Engineering Incentive" Clause allows for the contractor to initiate a recommendation for changing the drawings, designs, or other requirements of the contract that would result in savings to the Government without impairing the essential functions or characteristics of the project. The adjustment is 45% of the Instant Savings and 55% of the Government costs of evaluation of the proposal. This amount is deducted from the contract price. The decision of the Contracting Officer is final and not subject to the "Disputes" Clause.

The "Variations in Estimated Quantities" Clause is contained in contracts with estimated quantity items. The clause provides that where the quantity of a pay item in the contract is an estimated quantity and where the actual quantity of such pay item varies more than 15% above or below the estimated quantity as stated, an equitable adjustment in the contract price may be negotiated upon the demand of either party.

### 11.2 Categories of Changes

Changes may be separated into five categories:

1. Design Changes
2. Changed Requirements Changes
3. Differing Site Conditions Changes
4. Ripple Effect Changes
5. Constructive Changes.

"Design Changes," includes design improvements and the correction of design deficiencies. Design improvements may result from the contractor submitting a suggestion under the "Value Engineering Incentive" Clause or from suggestions of Government personnel. Design deficiencies arise when a portion of the design is found to be inadequate or incompatible with the surrounding structure. In either case, the Government has full financial responsibility for any costs incurred from either condition.

"Changed Requirements" Changes originate with the intended user agency of the facility. The change could be a result of a change in the mission of the using agency, revised methods of operation, or as a consolidation of agencies and personnel. The impact of these types changes can be minimized by carefully coordinating with the intended using

agency.

The third category, "Differing Site Conditions," has been previously discussed.

The "Ripple Effect" Changes affect the cost impact on subsequent work items caused by a change order. Prior to 1 February 1968, the contractor was entitled to recover the value of additional costs incurred doing changed work but only a time extension for any delay in the remainder of the work. The "Ripple Effect" Change allows the contractor to not only receive an equitable adjustment in payment for the additional costs of doing the changed work, but also the costs incurred on the remainder of the work by reason of the change.

"Constructive" Changes occur when the contractor is required by words or conduct of Government representatives acting within their authority, to perform different or additional work under the contract. Some examples of circumstances under which "Constructive" Changes may arise include the following:

1. When the contractor is required to perform work  
that is beyond the scope of the contract requirements
2. When the Contracting Officer has incorrectly interpreted the contract and demands of the contractor  
more than the specifications require
3. When the Contracting Officer refuses to issue a

formal change order for the work in question because it is his firm belief that the work is already required by the terms of the contract and that a change is unnecessary. Should the Contracting Officer's interpretation prove to be incorrect, the result is a "constructive" change in the contract requirements

4. When the contractor's costs are increased by a change in time, place or manner of inspection, or in quality control requirements
5. Where the contract does not specify how the work is to be done and the Government's representative insists that it be done in a certain way, although the work could be performed satisfactorily by a less expensive method
6. Where the contractor incurs additional costs because he is forced by action of the cognizant Government official to alter the sequence in which the work is performed
7. Where the contractor is entitled to a time extension because of an excusable delay, and the Contracting Officer acts in such a way as to require the contractor to follow the original contract performance



schedule despite notice of the contractor's claim to an extension of time. This "acceleration of performance" may also occur where the Contracting Officer recognizes an excusable delay, but for a shorter period than is justified, so that the time extension granted is insufficient, and the contractor is forced to speed up the work.<sup>70</sup>

### 11.3 Government Negotiations

The crux of the modification procedure is the negotiating phase. The successful negotiation of an equitable adjustment, the Government contends, demands careful and complete preparation. The Government feels that "adequate preparation enables the negotiator to negotiate with strength to take and hold the initiative throughout the negotiation conference and to meet any contingency with confidence, self-respect and integrity of position."<sup>71</sup>

The negotiation of price and other contract terms is usually conducted by the Contracting Officer or his duly appointed representative. The negotiation is either conducted by an individual or a team. The use of a team is dependent upon the nature, size, dollar value, complexity

and importance of the modification being negotiated. In the cases where the negotiations are being handled by a team, the Government emphasizes that the chief negotiator must exercise positive control over the team. This is done to ensure that the Government presents a unified position at all times to the contractor.

The first and most important step in the Government's preparation for the negotiating of price is price and cost analysis. The Government stresses that without this analysis, the negotiator cannot decide whether the contractor's quotation represents the lowest reasonable price. The Government views negotiations as a matter of reconciling the difference in fact and judgement between two price positions. Therefore, the Government teaches its negotiators to enter the negotiations with a firm, fully documented concept of the lowest reasonable price. The Government defines the lowest reasonable price as ... "the lowest price that provides a competent contractor with reasonable remuneration for his efforts and an incentive to do a good job."<sup>72</sup> By first obtaining the lowest reasonable price, the Government hopes to eliminate acrimonious haggling. This is not to imply that the Government discourages haggling, it doesn't. What it does hope to do is to have a defensible, reasonable position to bargain

from.

The Government sees price analysis as essentially the evaluation of total price without regard to its elements. Price analysis may simply be a "feeling" for the reasonableness of the price. It may be a measurement of price against some rule-of-thumb yardstick developed from experience on a similar job. The Government feels that the greatest advantage of price analysis is that it brings to light significant inconsistencies without the lengthy, detailed analysis. By conducting this analysis, the negotiator can determine to what extent a more detailed analysis of costs is necessary.

The Government's purpose of cost and profit analysis is to evaluate the reasonableness of the price through a detailed examination of the elements of the contractor's quotation. The cost elements are first appraised for their allowability and allocability to the contract, and secondly, the allowable cost items are evaluated for reasonableness of price.

The Government's estimate is usually compiled by personnel familiar with the project. Information may be culled from internal sources or commercially available publications. In cases where the total amount, cumulatively the increases and decreases, exceeds \$100,000, the preparer will have cost data obtained through a Government audit of the contractor

to base his estimate on. Profit is determined according to different formulas and is discussed later in the chapter. The total percentage allowable for profit may at no time exceed 15% of the modification price. This estimate is then used as a basis for the cost analysis of the contractor's quotation.

The next step in the Government's preparation for negotiations is to establish a negotiation strategy. Clearcut decisions are made as to which objectives:

1. Cannot be compromised under any circumstances
2. Can be compromised, to what extent, and in exchange for what
3. Merely represent an antidote to anticipated "pie in the sky" demands by the contractor.

The latter are dropped as soon as the contractor demonstrates a willingness to negotiate in good faith. The Government negotiator in addition to defining his own objectives, attempts to anticipate the contractor's likely position on various points. The negotiator evaluates the contractor's bargaining position in an attempt to prepare appropriate responses in advance with the appropriate documentation. The Government warns its negotiators that where advanced planning is desirable, strategy must remain flexible in the face of unexpected developments.

The Government schools its negotiators in subtle techniques to further gain the advantage in the negotiations. The first is in selecting the negotiation site. Negotiations concerning site conditions are best conducted at the site, negotiators are told. This is to allow any questions of fact to be readily resolved by inspection. The Government feels that negotiations conducted at the Government headquarters is advantageous for the following reasons:

1. It may be psychologically advantageous to have the contractor come to the Government
2. The negotiator has the resources of the agency available for backup
3. It reduces the time pressures on the negotiator to conclude negotiations and begin travel back
4. Higher authority is available for consultation.

The physical surroundings are felt to have an effect on the final outcome. The room should be well-lit and attempt to place the contractor at ease and comfortable. Physical discomfort may result in unpleasant proceedings.

The Government emphasizes punctuality to its negotiators. It feels that the party who is late may feel obligated to compromise important issues to ease the irritation of the other party. The Government would rather have the contractor in

this position. The Government warns that tardiness may be a tactic of the contractor to fray the temper of the negotiator, in which case the negotiator is told to indicate that the tardiness is of no consequence.

The Government feels that a cordial atmosphere is absolutely essential to the negotiator. Mutual trust and respect is the key to establishing this atmosphere. The Government attempts to avoid interruptions if at all possible. Control over one's emotions again is felt to be essential. A contractor, when he finds himself in an indefensible position, may turn to anger to divert the proceedings from the point at hand. The Government negotiator is told to calmly continue to probe the issue but not to push the contractor into a position from which the contractor cannot gracefully retreat and which the negotiator cannot accept. The Government acknowledges that the emotional outbursts are a valid tactic; but expresses its desire to have it used for the maximum effect by its own negotiators and to minimize the effect when used by the contractor.

Finally, the negotiator is encouraged to use direct, clear, simple language. The Government teaches its negotiators three rules to follow to avoid misunderstandings:

1. Use short sentences

2. Use short words

3. Repeat important points 3 or more times, phrasing it slightly different each time.

After all these preparations and considerations, the negotiator is ready to begin negotiations.

#### 11.4 The Negotiating Session

The Government breaks down the actual negotiations into four sections:

1. Determining the contractor's position
2. Establishing the Government's position
3. Exploring alternatives in the event of disagreement
4. Final agreement

In determining the contractor's position the Government tells its negotiators to use an agenda to keep the discussion on the relevant issues. The agenda may be the contractor's proposal with the negotiator's notes in the margin. The negotiator is told that it is incumbent upon the contractor to prove and justify his position and that the negotiator should not be made to feel that he must defend his estimate. The negotiator will attempt to force the contractor to deal in specifics when the contractor is stating his case. By insisting on specifics the negotiator is better able to assess

the reasonableness of the contractor's estimate.

After the contractor's position has been fully explored the negotiator may adjust his own position based upon the contractor's position. The negotiator now has two choices:

1. He may raise objections to individual items of the contractor's proposal and thus establish the Government's position
2. He may make a counter offer without regard to individual items.

The first method of establishing the Government's position was the preferred method among the three Government agencies.

As the parties are exploring the alternatives, the Government negotiator may not reveal the entire contents of the Government's estimate to the contractor during the negotiations session, but may strategically reveal portions. The Government estimate may not be altered unless it is found to be erroneous. If the negotiator finds that the estimate is in error, the change must be fully documented as to why and how the new figure was arrived at. It is during this phase of the negotiations that the myriad of tricks and ploys are used by both sides in attempting to get the most beneficial agreement for its side. A few of these techniques are:

1. Making the other side appear unreasonable



2. Placing the other side on the defensive
3. Blaming a third party for the inability to compromise
4. Use of straw issues
5. Use of walkouts
6. Use of recesses
7. Use of silence

The Government has found that asking the contractor to suggest a solution that will meet his own requirements as well as those of the Government has met with a reasonable amount of success. The number of possible solutions is limited only by the resourcefulness and flexibility of both parties.

The Government realizes that logic and persuasion are usually not enough to effect agreement, that a certain amount of "horse trading" is necessary to reach a mutually acceptable final agreement. If the contractor proves to be uncooperative and unreasonable, a unilateral price determination is made with the contractor performing the work and initiating a claim against the Government. Representatives from all three agencies expressed their strong desires to avoid such actions and stated that unilateral price determinations are used only as a last resort.

After final agreement is reached, the negotiator makes

certain that each party understands precisely what the terms of the agreement are. The negotiator attempts to have the contractor dictate the agreement to ensure that there will be no later disagreements. If the contractor is unwilling to do this, the negotiator will do so in the presence of the contractor.

The previous sections on negotiations were taken from two primary sources: an untitled course book from a Corps of Engineers course on contracting and Topic 2060- "The Art and Techniques of Negotiation" of the NAVFAC course "Construction Contract Administration and Management-Specialty."

#### 11.5 Corps of Engineers Modification Process

The Corps of Engineers modification process contains two key values, they are presently \$25,000 and \$100,000 and are subject to review and change. For modifications over \$25,000 in value, a formal Government estimate is required. A cost analysis is required for modifications whose value is under \$25,000. The Government estimate is usually prepared by the Resident Engineer. The Resident's experience is considered as the most valuable source of information when preparing the estimate. Additionally, information is obtained from the "Daily Construction Log," the Technical Engineering

Branch, or publications such as Means Building Construction Cost Data or the AED's Rental Rates for Construction Equipment. Overhead is limited to a maximum of 15%. Appendix F1 contains the guidelines used by the preparer in determining profit. Average profit currently is approximately 6%. For modifications whose aggregate value exceeds \$100,000, an audit of the contractor's organization is performed by the Corps of Engineers' auditors if the contract is for civil works or the Defense Contract Audit Agency if the contract is for military construction. The results of which are given to the estimate preparer.

The modification paperwork flow is initiated at the Resident Engineer level and proceeds as diagrammed by the flowchart in Appendix F2. A key point to note is that prior to any negotiation with the contractor concerning a price modification, the Resident Engineer must ensure there are funds available to cover the modification. If the funds are not available, the negotiations must be delayed pending approval of additional funds or the transfer of additional funds.

The contractor may not normally proceed until a signed modification order is issued by the Contracting Officer. The exception to this is in the case where the modification

must be performed immediately to preclude stopping the project pending receipt of a Notice to Proceed. Here a two part change order is issued. The first part authorizes the contractor to proceed with the changed work with a not to exceed price and the understanding that the final price will be adjusted downward from this price. The price may be a Government estimate or the contractor's quotation. The second part of the modification order is the formally negotiated price. The Corps prefers the formal negotiations to be concluded prior to the changed work being completed. This is to preclude the contractor from attempting to negotiate a "cost-plus" type of modification which is not desirable from the Corps standpoint.

For changes under the provisions of the "Changes" Clause and whose value is under \$25,000, the modification process is documented using the forms as found in Appendix F3.

All other modifications require the issuance of a Standard Form 30 by the Contracting Officer. After negotiations, the Resident Engineer prepares a modification packet similar to the example contained in Appendix F4. This packet is forwarded to the Contract Administration Branch, Construction Division for review. For changes under \$100,000 not requiring review by the Board of Awards, the packet is

sent through the Finance section for certification of funds to the Contracting Officer for signature on the formal modification order for forwarding to the contractor.

The Board of Awards reviews all changes over \$100,000 and those referred to it by the Office of the Counsel. The Board's purpose is to ensure compliance with the appropriate laws, regulations and procedural requirements. It also ensures that the proposed action represents sound judgement and legal sufficiency. The Board is comprised of qualified procurement, technical, legal, and contract pricing representatives. After their review, their recommendations are annotated and forwarded to the Contracting Officer for final approval.

The review and processing of Supplemental Agreements are similar to those for change orders with a few minor exceptions. Approval for Supplemental Agreements with a value over \$100,000 must be obtained from the Office of the Chief of Engineers. Approval for other Supplemental Agreements is obtained from the Division Engineer. The Supplemental Agreement packet contains the forms as found in Appendix F5.

In an interview, Mr. Richard Carlson, Acting Branch Chief, Supervision and Inspection Branch, Construction Division, NED, related that most modifications were issued

under the "Changes" Clause of the contract. The negotiation of the modifications were conducted half the time by the Resident Engineer and half the time by personnel within the Construction Division. He stated that the most difficult negotiation was one involving time extensions. He felt that there was no real method to check the contractor when he claimed a "ripple effect" change. This leads to the discussion of the use of the computer within the Construction Division. As was discussed in Chapter 8, the RA/PM program could prove to be the answer to the time extension problem by making use of its CPM capability. Mr. Carlson agreed to the potential benefit of the program's use.

Mr. Carlson agreed that the Government stresses preparation prior to negotiations and agreed that being able to analyze the contractor's quotation prior to face to face negotiations was an enormous advantage. The one point he stressed though was that of the negotiations he had observed, the Government negotiator's purpose was not to cheat the contractor or brow beat the contractor into performing the work at a loss, but rather to achieve an equitable adjustment. Using this as the objective, he found most negotiations proceeded smoothly. Problems, he says, arose on those projects where the contractor bid artificially low and hoped

to have the Government save him through modifications. Mr. Carlson stated that negotiations get rather acrimonious with contractors of this ilk.

#### 11.6 NAVFAC Modification Process

As with the Corps, NAVFAC's key values are \$25,000 and \$100,000, also subject to revision. For changes under \$25,000, the Project Manager prepares the Government's estimate, confirms the availability of funds, and conducts the negotiations with the contractor. Changes whose values are over \$100,000 have an audit of the contractor's organization done by the nearest office of the Defense Contract Audit Agency.

Appendix F6 contains flowcharts for approved changes. For any change whose value exceeds \$25,000, a Board of Changes is convened to determine an equitable adjustment. The Board is composed of two Government personnel and one representative of the contractor. The senior member of the Board is usually the SAROICC for the office. An example of the necessary paperwork is located in Appendix F7.

LCDR Holland stated that presently a flat 6% of the change is awarded for profit and 10% is allowed for overhead. The 6% figure was firm and not subject to discussion,

whereas the contractor could prove that overhead costs were greater than 10%, the allowable overhead could rise as high as 15%. LCDR Holland stated that generally the process ran smoothly and that estimates were carefully prepared, but that arriving at time extensions was somewhat less formal. He stated that time extensions were more rough estimates on the Government's part and if the contractor's request was reasonable, they would agree to the contractor's figure. This may seem to be another situation where the use of a computer may prove to be the answer, unfortunately this does not appear to be the case. Whereas the Corps' contracts are generally for large amounts in several contracts, NAVFAC has a large number of contracts with smaller dollar values. This coupled with limited access to a computer appears to eliminate the use of the computer as a viable solution.

LCDR Holland related that his personal knowledge of negotiation procedures and techniques was acquired through experience. Generally he followed the suggested approach to preparations for negotiations and stated he would feel professionally remiss if he did not enter the negotiations as fully prepared as possible. He stressed that his objective was to arrive at an equitable adjustment. He did not view the Government estimate as the highest price that could be



allowed for he felt that even the Government estimates are not perfect.

Overall, LCDR felt that the modification process functioned well but even so disputes did arise and had to be contended with.

#### 11.7 USPS Modification Process

Mr. Edward Kearney Jr., Chief, Construction Section, Design and Construction Branch, New England FREBO stated that usually modifications originated at the USPS FREBO. He stated that the process worked in the following manner:

1. An in-house cost estimate of the proposed modification is prepared and the availability of funds is determined.
2. The proposed modification is sent to the A/E for formal preparation of the "Request for Proposal" and cost estimate
3. Prior to the "Request for Proposal" being sent to the contractor, the cost estimate done by the A/E is compared with the in-house estimate to arrive at the final estimate
4. PS Form 7423 (Appendix F8) "Request, Proposal, and Acceptance" is sent to the contractor for

his proposal

5. The contractor prepares an itemized breakdown of Labor and Materials on NER Form 124A, "Cost Estimate," (Appendix R8), to include subcontractors' work
6. The contractor submits his proposal and negotiations begin
7. Technically, the negotiations are conducted by the A/E alone. Mr. Kearney stated that in practice the Project Coordinator will conduct the negotiations with the A/E's assistance. This is done because the A/E's personnel occasionally do not have an appreciation for the Government's interests when negotiating
8. The modification packet is forwarded to the Manager of the FREBO for signature.

If there are no cost/no time changes, the A/E may authorize the change.

Mr. Kearney stated that presently the policy is to allow a straight 10% for profit and 10% for overhead to the contractor or subcontractor performing the work. If the work is being done solely by a subcontractor, the subcontractor receives the profit and overhead percentage and the

contractor may add a 10% commission for his supervisory services.

Mr. Kearney stated that most negotiations take place at the office of the A/E. In cases where the cost of the modification is sizable, the negotiations will take place at the FREBO. He stated that most contractors initially submit only a lump sum proposal with very minimum cost breakdown. The price is usually unsatisfactory and when pressed for a more detailed breakdown, the contractor will have reduced his price considerably. Negotiations then continue on a line by line basis. Audits of the contractor's organization are conducted for changes in excess of \$100,000. Mr. Kearney stated that in his experience he has seen very few changes requiring an audit.

When asked how many changes eventually lead to claims, Mr. Kearney stated that he could not give a specific percentage but his general feelings were that a good number were sent to the Contracting Officer for a final decision.

## Chapter 12

### Disputes

"In the performance of Government contracts there may be a number of things which lead to disagreement. There may be differences over whether work is a change or required by a changed condition, the amount of price adjustment required, whether a particular item of cost may be allowed, over the cause of delays in deliveries, or similar matters. The "Disputes" Clause applies to these differences, whether or not referred to in the governing clause and they almost always are disputes concerning questions of fact. The "Disputes" Clause does not apply to questions of law. A question of fact may be distinguished from a question of law in that the former relates to events, occurrences, or circumstances, while the later involves the determination of what principles or rules are to be applied to such events, circumstances, or occurrences."<sup>73</sup>

The contractor must pursue his claim through administrative channels prior to bringing suit in court. The "Disputes" Clause requires a contractor to diligently proceed with the performance of the contract and in accordance with the Contracting Officer's decision pending final decision of the

dispute.

#### 12.1 Corps of Engineers Disputes Process

The Resident Engineer has the responsibility to resolve all questionable and/or disputed items as soon as they arise. As soon as a dispute is known to exist or is anticipated, the Resident Engineer is instructed to record all facts, to keep records, and to take photographs when appropriate. If the dispute cannot be resolved, the contractor submits his reasons for the impasse in writing to the Contracting Officer for a decision.

The Contracting Officer's (District Engineer's) decision is the first formal step in the procedure of contract appeals. First, the contractor is asked to submit the facts as he sees them and his position in writing. The Resident forwards all available information and his recommendation to the Contracting Officer. An analysis of the claim is performed by the District's staff. The documentation and recommendations provided by the field office will be reviewed to assure a complete understanding of the claim's history. Contract documents, intent, experience and legal procedure are examined.

Upon review of the analysis, the Contracting Officer will determine if the claim is a valid one. If the claim is

determined valid, a change order is issued or an equitable adjustment made. If the claim is deemed invalid, the contractor is offered the opportunity to meet with the Contracting Officer. As a result of this meeting, the Contracting Officer's final decision is written. The decision contains as a minimum the following elements:

1. Reference to the contract involved
2. Summary of the contractor's claim
3. Findings of Fact
4. Determination
5. Closing statement identifying it as the final decision of the Contracting Officer and advising the contractor of his right to appeal the decision within 90 days.

The Contracting Officer's decision is the foundation of the disputes and appeals process. It directs the way the contract will proceed in the interim. It is also the basis of the Government's position on appeal.

Under the new "Disputes" Clause, the appeal follows one of two paths depending on if it is a civil works or a military construction contract. In either case, the contractor must submit a Notice to Appeal within 90 days to the Contracting Officer.

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An appeal from a civil works contract is sent to the Division Engineer for a determination. If the Division Engineer denies the appeal, the contractor may choose to appeal to one of the following authorities:

1. The Corps of Engineers Board of Contract Appeals  
(ENG BCA)
2. The U.S. Court of Appeals
3. The U.S. District Court if the change is under  
\$10,000.

If the contractor appeals to the ENG BCA and is not satisfied with the results, he may pursue remedies through either 2. or 3.

If the contract is for military construction, the contractor may appeal the Contracting Officer's decision to one of the three following authorities:

1. Armed Services Board of Contract Appeals (ASBCA)
2. The U.S. Court of Claims
3. The U.S. District Court if the change is under  
\$10,000.

The Division Engineer does not formally enter into the appeals process.

Simple interest is payable on the amount of the claim finally determined owed by the Government and is payable for



the period of time from the date the contractor submits his appeal to either the date of a final judgement by a court of competent jurisdiction, or the date of mailing to the contractor of a supplemental agreement for execution, either confirming completed negotiations between the or the carrying out of a decision of the Board of Contract Appeals.

#### 12.2 NAVFAC Disputes Process

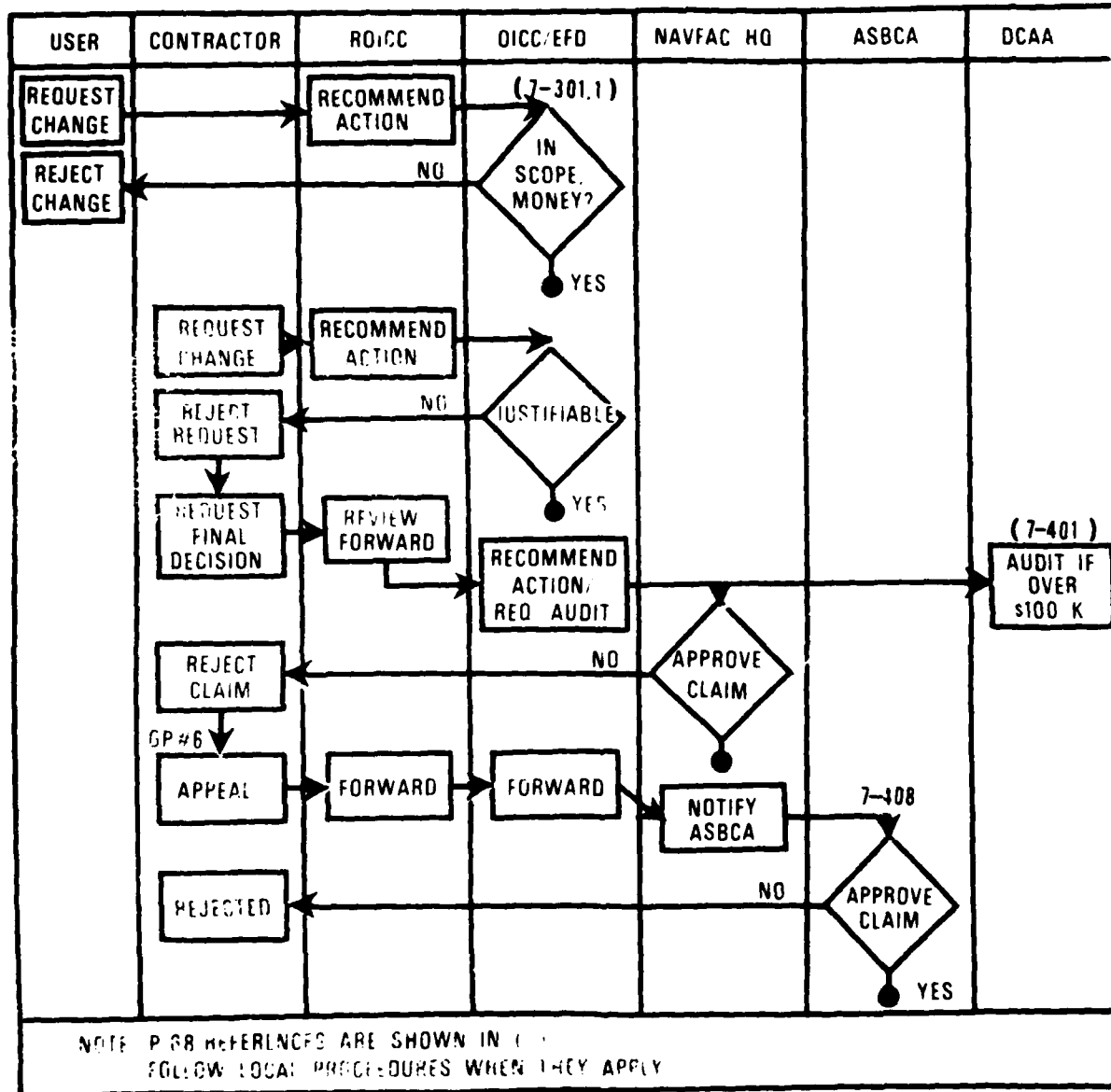
NAVFAC defines a dispute as "... any disagreement between the Government and the contractor, for which the contractor has or may request a decision of the Contracting Officer pursuant to the provisions of the "Disputes" Clause of the contract."<sup>74</sup>

NAVFAC encourages its personnel to resolve all possible claims that occur in the shortest possible time period. Claims of under \$1,000 or of insignificant time extensions are settled at the local level if at all possible. Only if the settlement would be unconscionable or would result in an unacceptable precedence does NAVFAC recommend forwarding the claim for a Contracting Officer's decision.

Figure 12.1 shows the flow of the claim procedure. Unlike the Corps where the District Engineer issues the Contracting Officer's final decision, the Commanding Officer

Figure 12.1

### CHANGE ORDER FLOW PATH FOR REJECTED CHANGE



of NAVFAC has retained that authority. Upon notification that a contractor requests a final decision, the EFD forwards all pertinent records and documentation along with the contractor's appeal to NAVFAC for a final decision.

The greatest majority of the decisions of the Contracting Officer are rendered solely on the basis of the record; that is, the information submitted by the contractor and EFD. In some cases the contractor requests to present his claim before the NAVFACENGCOM Contract Award and Review Board. This option is relatively unpublicized as evidenced by its omission from Fig. 12.1. The Board is composed of experienced military and civilian personnel. The procedures of the Board are relatively informal. Usually no verbatim transcript of the testimony is taken. The contractor is permitted full freedom of presentation, to include being represented by counsel and presenting expert witnesses. After the Board adjourns to consider the contractor's and Government presentations, the Board reconvenes to advise the contractor of its decision. If the Board deems that the contractor's claim is partially or totally justifiable, it will attempt to negotiate a settlement at that time. If the case cannot be satisfactorily resolved by the Board, a Contracting Officer's final decision will be issued.

Under the new "Disputes" Clause, the NAVFAC contractor has the same appeal options as does the Corps contractor:

1. ASBCA
2. U.S. Court of Claims
3. U.S. District Courts.

### 12.3 USPS Disputes Process

The manager of the FREBO is authorized to issue Contracting Officer's final decisions. Mr. Kearney indicated that the claims which go into the Contracting Officer for a final decision are cases where the Project Coordinator found the contractor's proposal unconscionable and the contractor refused to accept any alternatives. Both sides present their views in writing to the Contracting Officer for his decision.

If the contractor is not satisfied with the Contracting Officer's final decision, there are two options open to him:

1. Within 90 days from the date of receipt of the Contracting Officer's final decision, the contractor may appeal the decision to the Board of Contract Appeals
2. Within 12 months of the date of receipt of the final decision, the contractor can bring an action directly on the claim in the U.S. Court

of Claims.

As with the Corps and NAVFAC disputes process, the contractor must proceed diligently with the performance of the contract in accordance with any decision of the Contracting Officer.

The Board of Contract Appeals is the authorized representative of the Postmaster General to hear and decide appeals from decisions of the Contracting Officers when, and to the extent such appeals are expressly authorized by the terms of any contract to which the United States Postal Service is a party.<sup>75</sup> The Board is composed of the Judicial Officer, as chairman, Associate Judicial Officer as vice chairman and the Administrative Law Judges of the Postal Service. Cases are not heard by the entire Board but rather by a panel of three of its members. Decisions by these panels may only be appealed to the U.S. Court of Claims.

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Interview, November, 1979.

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## APPENDICES

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**DEPARTMENT OF THE NAVY**  
**NORTHERN DIVISION**  
**NAVAL FACILITIES ENGINEERING COMMAND**  
**PHILADELPHIA, PENNSYLVANIA 19112**

TELEPHONE NO.  
Autovon 443  
215-755-4841

Code 05  
F333

11 AUG 1978

**From:** Commanding Officer, Northern Division, Naval Facilities  
Engineering Command  
**To:** CDR William G. Matthews, CEC, USN, 185-28-8079/5100  
Naval Submarine Base, New London, Box 26, Bldg. 405,  
Groton, CT 06340

**Subj:** Contracting Responsibilities; assignment of

**Ref:** (a) OICC SUBASE NLON ltr Ser 1468C of 24 July 1978  
(b) Contracting Manual NAVFAC P-68  
(c) NORTHNAVFACENGCOMINST 4330.11A  
(d) NORTHNAVFACENGCOMINST 7820.1A  
(e) NORTHNAVFACENGCOMINST 5450.5  
(f) NAVMATINST 5000.3 - Material Inspection Service  
Administration Manual (Vol 2)  
(g) ASPR Section XIII  
(h) ASPR Appendices B & C  
(i) NORTHNAVFACENGCOMINST 1611.1A

1. In accordance with reference (a), you have reported as Officer in Charge/Resident Officer in Charge of Construction of Naval Facilities Engineering Command Contracts.

2. You are hereby assigned such Officer in Charge of Construction authority and responsibility as specifically noted below effective 28 July 1978.

a. Formally advertised contracts for new construction, repair, or alteration, not to exceed \$100,000.

b. Negotiated lump-sum A-E and E-S contracts, not to exceed \$10,000.

c. Formally advertised contracts for the repair, alteration, and overhaul of Government-owned equipment, including motor vehicles; construction; weight-handling; materials-handling; and railroad equipment; and all other types of transportation equipment and allied appurtenances, not to exceed \$250,000.

d. Lump-sum "informal contracts".

e. Competitive bid lump-sum demolition not to exceed \$10,000.



f. Advertised competitive maintenance service contracts not to exceed \$250,000.

g. Negotiated "in scope" change orders to the foregoing contracts.

3. Officer in Charge of Construction authority includes preparation, award and supervision of contract work, including the preparation of the drawings and specifications; the issuing of invitations to bid, the opening of bids; the issuance of notices of award; the execution of contracts, change orders, and other contractual instruments; the negotiation of change orders; and the selection of contractors and fee negotiations for authorized negotiated contracts; all pursuant to reference (b).

4. Limitations on authority.

a. It shall not be assumed that any authority not specifically set forth herein has been delegated.

b. Much of the authority delegated is subject to prior review and/or approval. Those actions requiring prior review and/or approval are set forth in various sections throughout reference (b) and are summarized and listed in reference (b), Appendix B and reference (c).

c. Nothing contained herein shall be construed as authorizing the obligation of funds, or the award of a contract without authorized funds in an amount to equal the amount of the award.

5. As a condition of granting the authority contained herein, it is required that NAVCOMPT Form 2044 or Work Request Form 140 be submitted to this Command in accordance with reference (d), concurrent with award of any contract subject to a SIOH charge.

6. You are also hereby designated Resident Officer in Charge of Construction for all construction contracts at these activities listed in enclosure (1) to reference (e) under the column headed "ROICC Responsibility for Contract Administration and Inspection for following Commands/Activities", and for such other contracts that may be specifically assigned by subsequent separate correspondence.

7. In addition, you are also designated Property Administrator for each contract which requires that property be furnished to or acquired by the contractor. You shall carry out the duties and responsibilities of Property Administrator under references (f) through (h) and shall maintain records necessary to assure that the interests of the Government

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are protected. Your designation as Property Administrator may be redelegated to subordinates as necessary.

8. Your duties as Officer in Charge of Construction/Resident Officer in Charge of Construction are as outlined in reference (c).

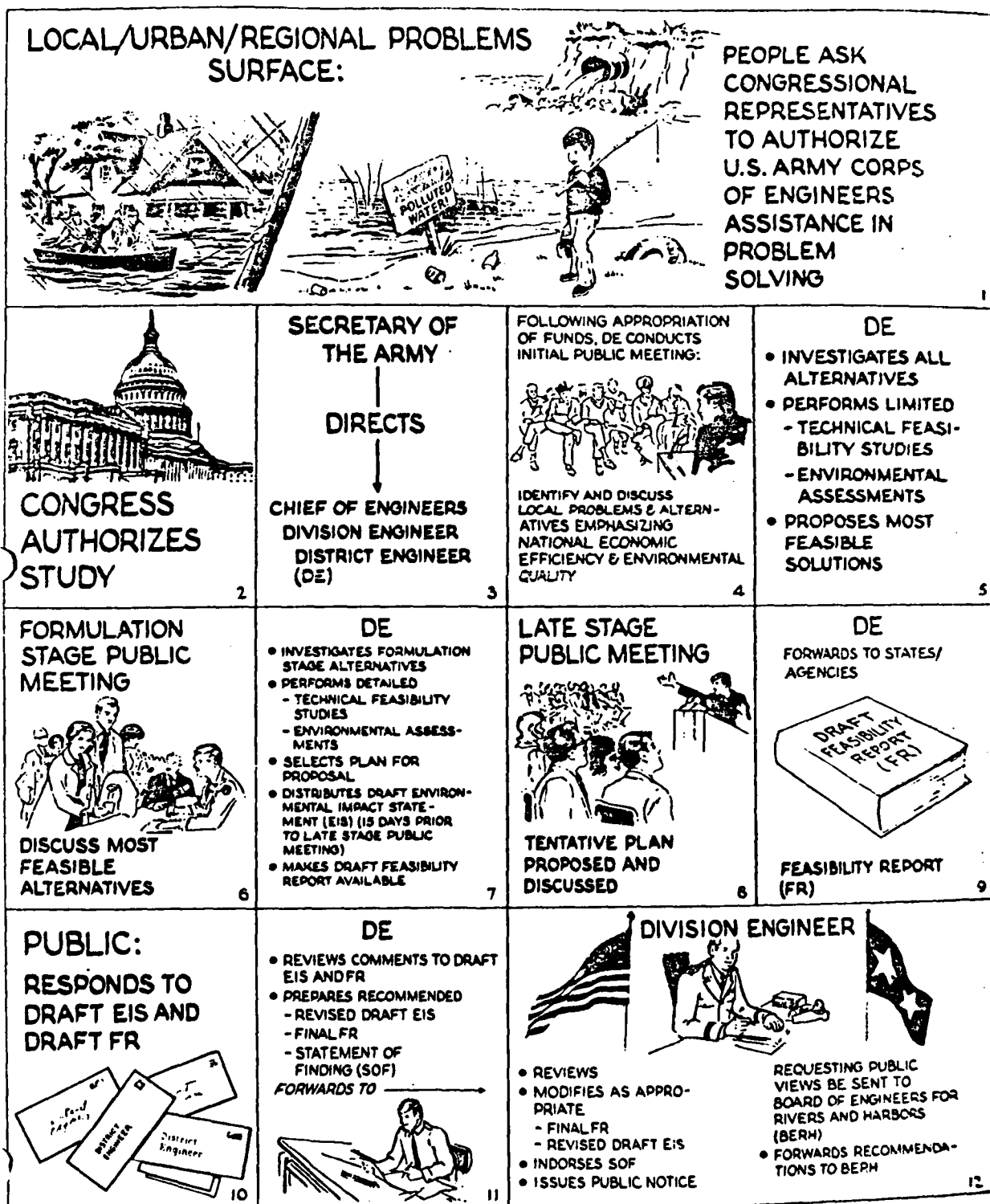
9. Pursuant to 1-403.1(b) of reference (b), within 15 days, forward the name of your recommended Assistant Officer in Charge of Construction.

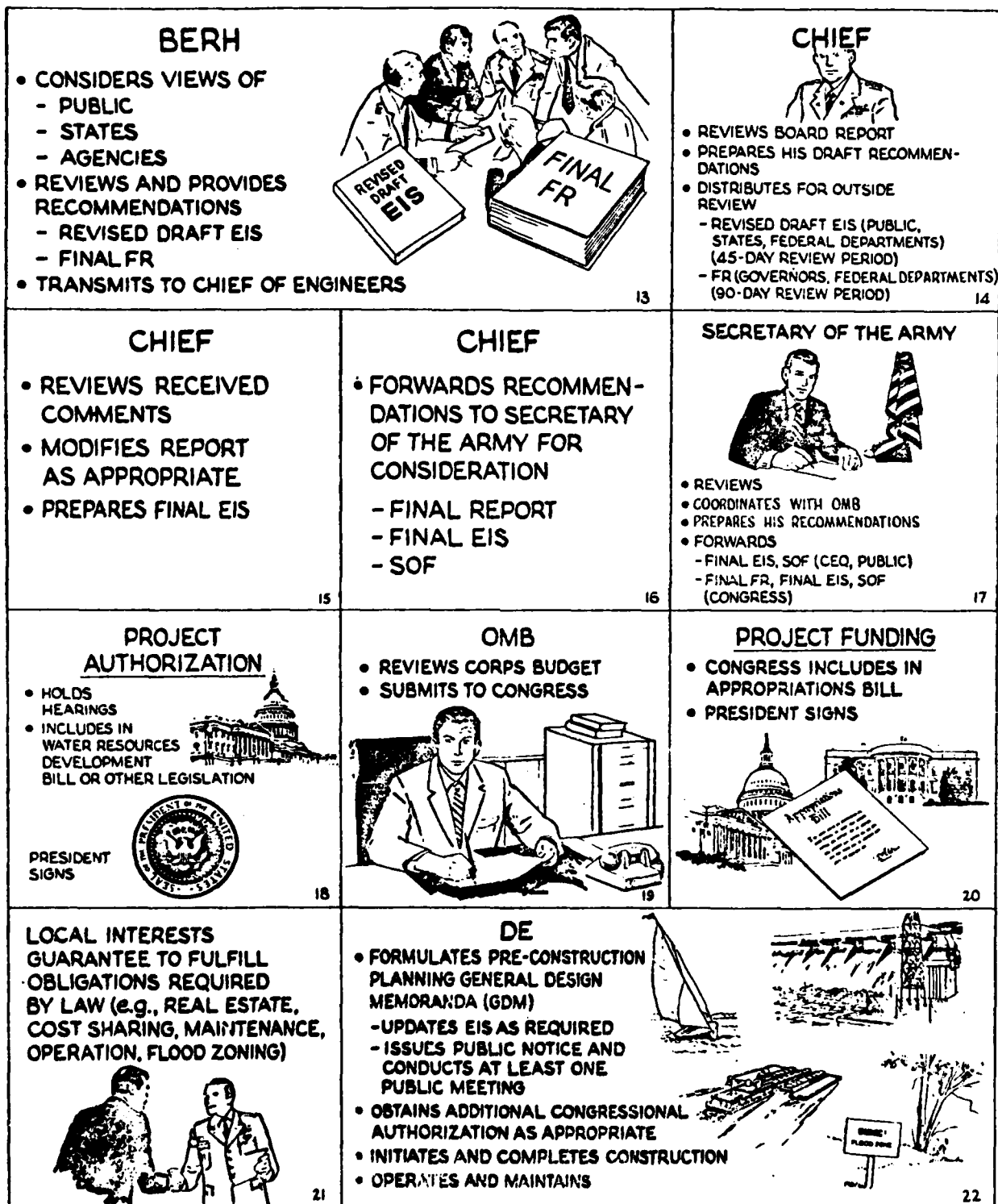
10. A fitness report may be required by this Command in accordance with instructions contained in reference (i).

D. H. GERDEL  
BY DIRECTION

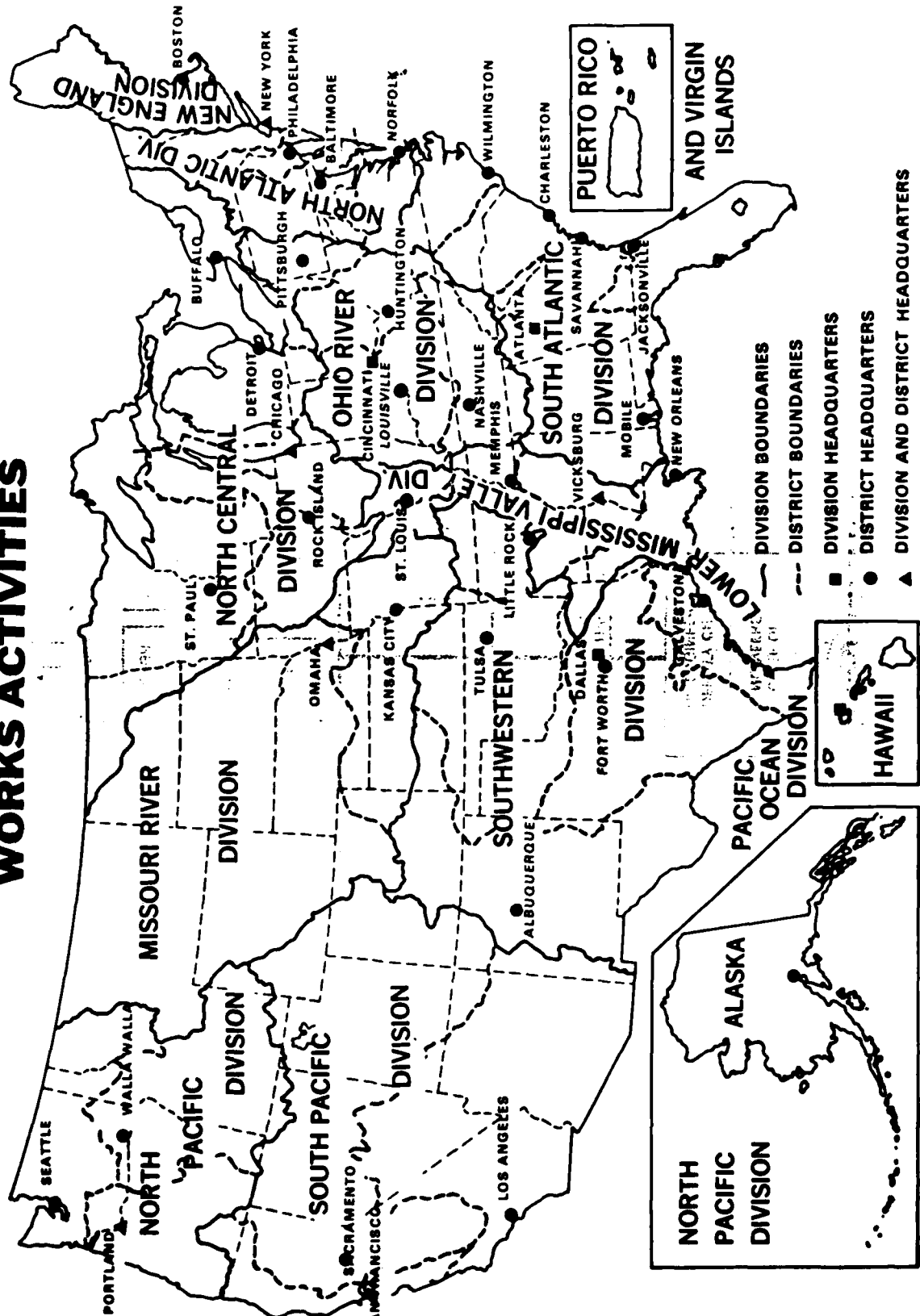
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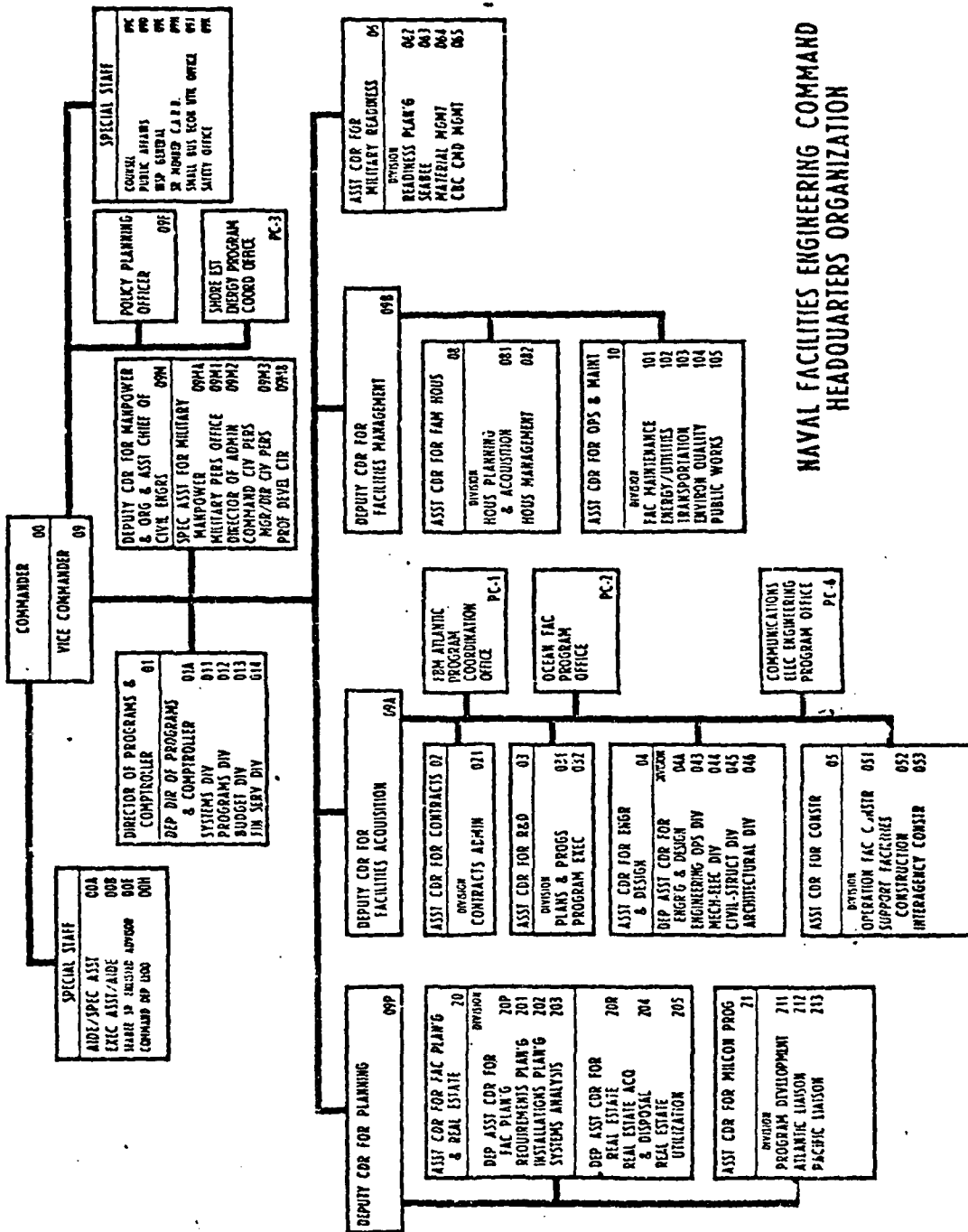




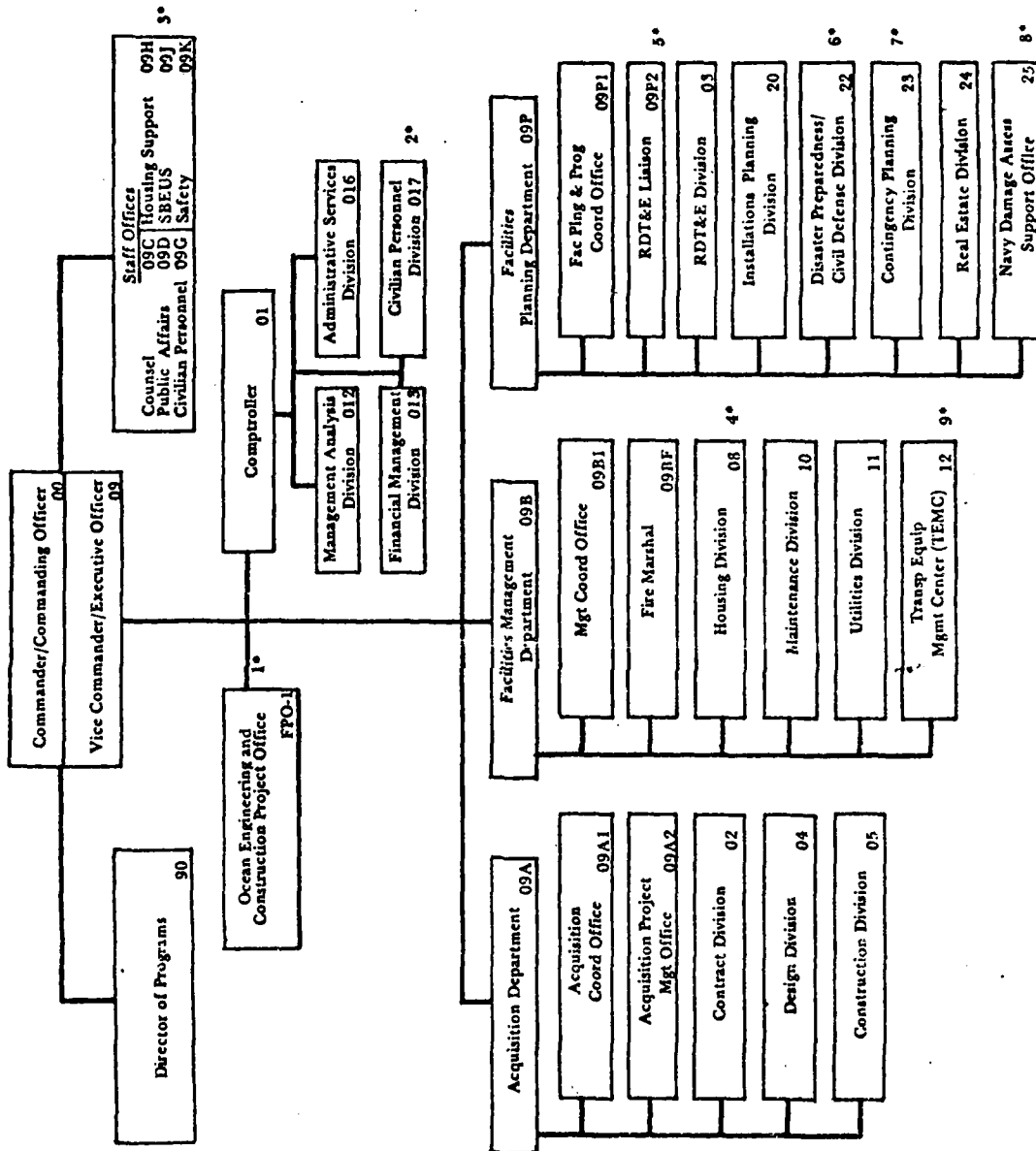


# **DIVISIONS AND DISTRICTS FOR CIVIL WORKS ACTIVITIES**





## ENGINEERING FIELD DIVISION ORGANIZATION



(SAMPLE AGENDA)

AGENDA OF ITEMS TO BE DISCUSSED AT PRE-CONSTRUCTION CONFERENCE

Contract No. DACW33-  
Project  
Location

SPECIAL PROVISIONS:

- SP- 1 Commencement, Prosecution, and Completion of Work
- SP- 2 Liquidated Damages
- SP- 3 Contract Drawings, Maps, and Specifications
- SP- 4 Contractor Submittal Procedures (Shop Drawings and Materials)
- SP- 6 Rates of Wages
- SP-11 Performance of Work by Contractor
- SP-12 Layout of Work
- SP-14 Funds Available for Payments
- SP-15 Required Insurance
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9. Labor Standards

P386, ASPR 18-704.1, NAVFAC P-68

a. Statutes and Regulations

- ☐ (1) Davis-Bacon Act
- ☐ (2) Work-Hours Act of 1962 (Overtime Compensation)
- ☐ (3) Copeland Act-Non-Rebate of Wages (Anti-Kickback)
- ☐ (4) Withholding of funds to assure Wage Payments
- ☐ (5) Non-discrimination in Employment NORTHNAVFACENGCOMINST 4275.1
- ☐ (6) Previous Participation Statement

b. Requirements in support of the above statutes and regulations

- ☐ (1) List of Sub-contractors (Use Form DD-1566)
- ☐ (2) Classification of wage rates not included in the specifications (Use Form DD-1565)
- ☐ (3) Posters (pertaining to wage rates and non-discrimination)
- ☐ (4) Apprentices
- ☐ (5) Payrolls  
Submittals  
Affidavits-DD Form 879

☐ c. Procedures to be followed in the event of labor disputes with organized labor: P-386

☐ 10. Availability of Federal Specifications

May be viewed at office of Contract Administrator

☐ 11. Plan of Construction and Progress Charts, NORTHNAVFACENGCOM 4330.4

☐ 12. Schedule of Prices

See Contract Requirements

☐ 13. Government Furnished Utilities and Services

NAVDOKS P-68

☐ 14. Unauthorized work

(The following policy regarding work outside of the contract definitive scope shall be presented to the contractor in a preconstruction conference and made a part of the record.)

All standard definitive contracts provide that changes and/or modification thereto be made only as directed by the OICC/ROICC. The accomplishment of so-called "extras" is strictly prohibited and, in this connection, contractors are directed to effect no changes or modifications to a definite contract without the expressed approval of the OICC/ROICC in writing. Under the terms of the contract, only the OICC is authorized to initiate changes. The foregoing includes all changes or modifications within the purview of the "Changed Conditions" clause in the contract and includes all "approvals," "explanations," "clarifications of intent," and related matters.

☐ 15. Submittal of Shop Drawings

At commencement of work, a log should be established listing all items on which shop drawings or samples should be submitted. The log should be so prepared as will permit recording time of submittal, and time of approval with appropriate comments as to resubmittals or delays in handling by either the contractor or government.

NAVFACENGCOMINST 4335.3

NAVFAC 4-4300/5

☐ 16. Marking of Samples

All samples of materials to show kind/type/style should be fully marked as to contract number, description of material and location of ultimate use.

☐ 17. Work outside of regular hours

NORTHNAVFACENGCOMINST 5330.1 policy on overtime in connection with inspectors

☐ 18. *Factory Inspection and Expediting of Material and Equipment*

NORTHNAVFACENGCOM INST 4355.2

NAVDOKKS P-68 Article 6.6.5

☐ 19. Equipment and Delivery Schedule

Contractor Progress Chart should include schedule for delivery of equipment to be installed in structure.

☐ 20. Sanitation

NAVDOKKS 113 Clause 32 or NAVFAC 4-4330/5 Clause 32

☐ 21. Safety Program

Corps of Engineers Manual EM 385-1-1

NAVDOKKS 113

NAVFAC 4-4330/5

☐ 22. Disposal of Spoil Materials and Disposal by Burning

Station regulations will be followed by disposing of materials as to use of dump or site where burning may be done.

☐ 23. Hurricane and/or Storm Condition Plan

Station regulations will be followed

☐ 24. Records of As-Built Construction

*During the construction period, deviations from plans and specifications shall be noted on a set of prints made available by the contractor for this purpose only. The contractor superintendent in conjunction with the job inspector shall be responsible for recording all variations or changes from the original contract. A schematic drawing shall be required for all central wiring not shown on plans and for piping that is hidden from view and not shown on drawings. One complete set of marked-up drawings showing "as-built" conditions shall be submitted to the OICC/ROICC upon contract completion.*

☐ 25. Policy for Final Inspection

On work performed for Air Force, additional reports and actions are required.

☐ 26. Invoices for Payment and Payment Procedures, NORTHNAVFACENGCOM INST 4281.1☐ 27. Submission of Performance and Payment Bonds

Forms SF 25 and SF 25-A must be submitted prior to work commencement and written on an approved insurance company.

☐ 28. Contract Performance Statement (NAVDOCKS 2312)

Progress on all MCON funded contracts is reported on this form, it accompanies NAVDOCKS 2311, Contractor's Invoice.

☐ 29. Industrial Incentive Plan

**DEPARTMENT OF THE NAVY**  
**OFFICER IN CHARGE OF CONSTRUCTION**  
**RESIDENT OFFICER IN CHARGE OF CONSTRUCTION**  
 BUILDING NO. 405, BOX 26  
 NAVAL SUBMARINE BASE, NEW LONDON  
 GROTON, CONNECTICUT 06340

IN REPLY REFER TO:

GUIDE FOR COMPLETING CONTRACT ADMINISTRATIVE REQUIREMENTS

1. Insurance

a. Proof of insurance required for the prime contractor and for each subcontractor.

b. Coverage:

	<u>Per Person</u>	<u>Per Accident</u>	<u>Property</u>
(1) Comprehensive General Liability	\$100,000	\$300,000	\$10,000
(2) Automobile Liability	\$100,000	\$300,000	\$10,000
(3) Workmen's	As required		
(4) Other as required by State Law			

2. DD Form 1566, Statement and Acknowledgment

Submit one form for each subcontractor. This form is not needed for suppliers. Attachment 1 contains a sample copy of the form.

3. Schedule of Prices

Submit two signed copies of the Schedule of Prices. Note that the breakdown must be in detail; predominantly list quantities and pricing data by units vice lump sum; and, include all associated profit, overhead, mobilization costs, etc., as part of the work item unit price. An example of Schedule of Prices format is contained in Attachment 2; a sample form is contained in Attachment 3.

4. Fire Prevention Guide

Attachment 4 contains the local activity fire prevention requirements. Please return a signed copy to this office.

5. Labor Standards Requirements

Payrolls must be submitted weekly for the prime contractor and for each subcontractor. Paper work involved in these submissions follows:

- a. Affidavit naming person to sign payroll: If the person signing the payroll is not the company owner, partner or company officer, this form must be submitted in advance to the OICC/ROICC. A sample form is contained in Attachment 5.
- b. Weekly Payroll: A sample form is contained in Attachment 6. Payroll forms are available from:
  - (1) Superintendent of Documents  
U.S. Department of Labor Form WH-347
  - (2) Government Payroll Printers (Form 6PP.22A)  
23-08 Jackson Avenue, L.I.C. New York 11101
- c. Statement of Compliance: This form, if not already preprinted on the payroll form, must accompany each payroll. A sample is contained in Attachment 7.
- d. Contained in Attachment 8 is the applicable form to use when the work is performed personally by an owner or partner.

6. Daily Report to Inspector

A sample form for this report is contained in Attachment 9. One completed form should be made available to the Government inspector by 0800 on the workday following the day of the report.

7. Contractor Passes

- a. An identification badge is required for access to either the upper or lower sections of the Submarine Base. The prime contractor's superintendent is responsible for obtaining and returning all prime and subcontractor badges. Badge issuance requires completion of an application form (Attachment 10), delivery of the form by the superintendent to the OICC/ROICC for approval/signature, and delivery of the signed form to the Security Department by the applicant.

- b. Note that access to the lower base is strictly controlled and requires the appropriate lower base badge.
- c. Contractor employee private vehicles are not allowed on the Submarine Base. Properly marked company vehicles for prime/subcontractor superintendent use plus properly marked construction/work vehicles only are allowed.
- d. Similar requirements exist at the Naval Underwater Systems Center with the exception that contractor passes must be left with the NUSC Security Department at the close of business each day.

8. Payments

- a. Payment submissions should be coordinated with the inspector before being made. This will avoid any later delays due to errors.
- b. Forms required are:
  - 1. NAVFAC 10-7300/30, Contractor's Invoice (Attachment 11): Complete top half of form and submit in triplicate. This form is only required on Northern Division administered contracts.
  - 2. NAVFAC 10-7300/31, Contract Performance Statement (Attachment 12): Complete top and left hand side of form and submit in triplicate. This form is only required on Northern Division administered contracts.
  - 3. NORTHNAVFACENGCOM 4355/1, Monthly Estimate for Voucher (Attachment 13): Complete in total using Schedule of Prices format and submit in duplicate.
- c. A contractor's release is required for final payment. Four signed and properly executed documents are necessary. A sample form is contained in Attachment 14.

9. Material Ordering Rating Number

Under this contract you are assigned the right to use a DO C-2 rating number for all purchases. Attachment 15 provides more information on this priority rating system. It is important that all of your purchases properly reference this rating assignment.

10. Safety Plan

If the contract exceeds six months work or is hazardous in nature, submit a safety plan and meet with representatives of the OICC/ROICC to discuss the plan.

11. Contractor Quality Control Plan

Required on certain large contracts by Clause 79 of the General Provisions.

12. Progress Charts

The requirement and makeup of the progress chart are contained in Clause 62 of the General Provisions. An updated copy is required with each payment request and when required by major changes in the work.

13. Environmental Plan

Required on certain contracts by Section 01501 of the specifications.

Attachments:

- (1) Statement and Acknowledgment,  
DD Form 1566
- (2) Schedule of Prices Format
- (3) Schedule of Prices
- (4) Fire Prevention Guide
- (5) Affidavit Naming Person  
Authorized to Sign Payroll
- (6) Weekly Payroll (sample)
- (7) Statement of Compliance,  
DD Form 879
- (8) Form of Statement to be Submitted  
When Work is Performed Personally
- (9) Daily Report to Inspector  
NAVFAC 4330/34
- (10) Application for Contractor's  
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Purpose of Plan is to assert positive actions to be taken in preventing accidents which cause personal injuries, property damage and interruption of work.

### 1. Responsibilities.

- Management** - Under the Corps of Engineers General Safety Requirements and the Federal Occupational Safety & Health Act, Title 29 CFR Part 1926, management is responsible for planning deliberate accident prevention measures, providing safe equipment and working conditions, training a competent and safety-minded force, and maintaining records prescribed for accidents, injuries and illness.
- Supervisors** - Responsible for observing and evaluating training and correction of deficiencies, unsafe conditions or defective equipment when detected or reported.
- Workers** - Responsible for use of safety equipment; working with deliberate thought for effects on others of their acts; reporting all unsafe conditions, defective equipment and injuries immediately to Foremen.
- Subcontractors** - Responsible for full provisions of this Plan.
- Licensed Blaster** - Responsible for safe use and handling of all explosives.

### 2. Training.

Each employee will be instructed in the company safety policy, this Accident Prevention Plan and hazards of the work, and in safety procedures of EM 385-1-1.

They will be instructed in correct method of lifting and obtaining assistance for heavy or awkward loads, and special instructions will be given in preventing falls which cause one third of the accidents.

Unskilled men called to help Mechanics will be given specific instructions of the work they are called upon to do, and warned specifically of dangers involved with machine parts, power transmission or equipment.

All men will be directed in calling for emergency help from agencies with which arrangements have been made in advance. Notice of telephone numbers will be conspicuously posted for emergency use:

Dr. _____	Address _____	Tel No. _____
Hospital _____	Address _____	Tel No. _____
Fire Dept. _____	Address _____	Tel No. _____
Ambulance or Rescue _____	Address _____	Tel No. _____
Police or Coast Guard _____	Address _____	Tel No. _____ Radio _____ KHz

This Plan, posters and Bulletins will be posted available to all workers.

Insurance Company (not agent) to assist in training is: \_\_\_\_\_

All project personnel will participate in a regularly scheduled accident prevention training meeting of at least five minutes early in every week, and Resident Engineer will be given notes immediately.

Supervisors will meet monthly to review accidents, evaluate and plan training and maintenance, and report will be given Resident Engineer immediately.

### 3. Sanitation.

Drinking water will be carried in plastic-lined containers cleaned and refilled daily from municipal water supply. Paper cups will be furnished and place provided for their disposal.

Portable chemical toilets will be provided near the work sites. Replacement toilet supplies will be furnished, and equipment maintained clean and sanitary. Washing facilities must be provided by attachment of supply and drain lines or provision of hand cleaner, and issue of paper towels.

Approved first aid cabinet will be installed in office. All injuries, no matter how slight, will be reported for treatment. First aid will be given at the project only by (name) \_\_\_\_\_, who is qualified through training by (source) \_\_\_\_\_. No others will treat any injuries at the project.

No person will be permitted to operate machinery or work in elevated locations while taking antihistamines or other drugs for minor illness. Workers will be instructed in identifying, avoiding, or first aid for stinging insects, snakes, rodents or poison ivy if encountered on the work.

4. Fire Prevention.

Fire Extinguishers of CO<sub>2</sub> or other approved types will be furnished on the project, and will be stationed at office and storage trailers, with welding machines, and on boats and motorized equipment.

No brush or debris will be burned on the project.

"NO SMOKING" signs and careful watch on areas containing flammable liquids.

Gasoline will be handled only in approved safety cans. Engines will be shut off while fueling.

Oily rags and waste will be kept in covered metal containers. All trash and waste will be disposed of daily. Tarpaulins will be flameproofed.

Welding gas cylinders will be secured upright, capped when not in actual use, and shielded from direct sunlight. Hoses and gauges will be checked for leaks, and kept clear of oil and grease. Flowback and explosion of gases will be prevented by installation of safety check valve on each gas torch.

Fire watch will be kept for 1 hour after all cutting or welding. Falling sparks from cutting or welding shall be caught in metal or asbestos screens.

Oil lanterns will not be used.

Temporary heating units will include only components approved by the Underwriters Laboratories or approved agency. Operators are to be instructed in the manufacturers' recommendations for safe use and maintenance of heaters. An approved fire extinguisher will accompany each heater. No unit will be set closer than 10 feet to wood, fabric, or other flammable material. Natural or fan ventilation will be provided for all enclosures containing gas heaters. No plastic hose will be allowed for gas supply, and tanks will be kept outside enclosures.

5. Housekeeping.

Tripping hazards will be eliminated by removal of hose, cables, and ropes from walkways, by proper storage of materials, and by disposal of waste material.

All debris shall be removed daily.

Nails shall be removed from lumber or flattened immediately.

Oil and grease spills will be cleaned up immediately, and icy, slippery surfaces will be cleared and sanded.

6. Individual Protective Equipment.

Workers will be thoroughly indoctrinated to the instinctive use of required protective equipment.

All personnel will wear hard hats throughout the project.

Goggles will be worn for all chipping, grinding, drilling, use of acids, chemicals, epoxy, or powder actuated tools.

Ear protection will be worn by Operators, Drivers, or Mechanics exposed to continuous high-level sound intensity.

Respirators will be worn by all persons exposed to dust or chemical fume inhalation, spray painting, or sand blasting. Assistants as well as Operators will be protected.

Safety belts with tie lines preventing a free drop of more than five feet will be worn by all workers on elevated locations not protected with railings on scaffolds and platforms, including boatswain's chairs.

Non-slip soles will be worn on safety shoes.

Metatarsal guards will be used by men performing heavy repairs or handling chain saws, pneumatic tools, or timber.

Fluorescent vests or belts will be worn by men exposed to traffic by night or day.

Impermeable rubber or plastic covering will be worn to prevent skin contamination by bacterial infections, acids or chemicals.

Life vests USCG approved will be worn by all men working over or adjacent to water areas, whenever in small boats or when exposed to falling in the water.

Life saving skiff equipped with life ring, boathook and oars will be ready for rescue of any person who should fall in the water, and crew trained.

7. Ventilation

No person will enter tank, tunnel, or manhole without safety belt and life line tended by a man safely outside having no other duties.

Oxygen content or concentrations of hazardous materials in the air will be tested by approved instruments of appropriate type.

Positive means of ventilation, including exhaust fans and ducts, shall be provided during work with enclosed gas heaters, solvents, resins, and other toxic materials in confined spaces to reduce concentrations below established standards and to remove flammable vapors.

8. Hand and Portable Tools

All tools shall be in good condition without mushroomed heads and split handles, repaired promptly or removed from the site. This includes privately-owned equipment of the workmen.

Tools shall not be left overhead to fall. Throwing of tools is prohibited.

Flocking or cribbing shall follow closely all lifts with jacks.

Guards will be installed over all cutting, rotating, or moving machine parts.

Safety fastening will be secured at pneumatic hose connections.

Compressed air will not be used for cleaning clothes or blowing out dirt.

All powder-actuated tools will be registered with the Resident Engineer by make, model and serial number and ownership. All charges and studs will be stored under lock and key. Use of such tools shall be limited to Operators possessing certificate authorized by manufacturer's representative after training in safe use and maintenance of that model equipment.

Axes, machetes, and brush hooks will be carried below waist level with cutting edge protected by scabbards. Brush will be cleared for safe swing of tool.

9. Temporary Construction

~~Ladders shall be sound and solid, long enough to project three feet above top landing, and secured top and bottom against falling.~~

No work will be done from top step of any stepladder.

Trailer entrances will have steps, not blocks, and handrails.

No single plank shall be used for staging or walkways, or supported on ladder rungs. Plank are to be secured in place.

All cribbing and blocking will be secured in position.

Scaffolding and ranges shall be erected of sound materials, securely braced, and provided with guard rails and toe boards to prevent falling or dislodging tools.

Every opening in deck or floor will be closed with solid cover or surrounded with rigid barricade and lighted during hours of darkness.

Adequate lighting will be installed for stairs, ladders, unlighted compartments and walkways during work periods. Minimum intensity shall be 10 foot candles.

Warning signs shall be posted in locations required.

10. Electrical Hazards

All installations, temporary as well as permanent work, shall comply with National Electrical Code and shall be installed by licensed electricians.

Portable generators shall be properly grounded to ground rods or water lines.

Electric welders will be grounded and bonded.

All 15- and 20-ampere receptacles or outlets used for single-phase circuits throughout the project will be installed with approved Ground Fault Circuit Interrupters operating on ground fault current of not more than 5 milliamperes. Test will be recorded and device reset daily and after each change in circuits.

Portable electric tools will be grounded with three-wire cords and receptacles, or by bonding wires to low-resistance ground leads unless of Underwriters Laboratories-approved double-insulated type.

Patched electric cords are prohibited.

Temporary electric wiring shall be suspended overhead. Lamp bulbs will be guarded.

By-passing of protective devices will not be tolerated, and switches and boxes shall be closed. No work will be performed on "Hot" lines of any voltage.

11. Safe Clearance Procedure

Before repairing, connecting or adjusting any mechanical, electrical, pressure, or hydraulic systems, inadvertent operation will be prevented by locking of switches, controls, or valves or moving parts. Authorization for interruption of systems will be obtained by advance preparation of approved schedule of work, identification of responsible supervisor of the work, and submission of safe operating procedures. Authorization for safe clearance will be obtained in advance from the supervisor, and no system will be interrupted without approved Safe Clearance Procedure.

12. Powered Equipment

All machines shall be inspected prior to work on the project by the Operator or Mechanic with a Government representative, and safe operating condition indicated on Form 478 filed at the site.

All machines will be examined daily for safety appliances and condition, and all defects repaired promptly. Periodic maintenance schedules will be followed as recommended by the manufacturer.

Cranes and hoists will be given static load test of 125% of the maximum service load. In the cab of each crane, signs for maximum loads at all boom angles and warning of ten foot clearance at overhead wires will be posted in Operator's view. Form 3363 and Form 3364 will be used.

Receivers of air compressors will be given hydrostatic test of 125% maximum working pressure biennially, and certificate posted on the project.

Water will be drained daily from tanks of vehicle air brake systems.

Rigging, hooks, pendants and slings will be examined frequently, and defective elements removed from the site. All hooks will have safety latches. Replace worn cable and old socket fittings. Use not less than three clips on cable connections, applied correctly.

All machines will be shut down for adjustment or oiling. During repair of all machines, blocks or stops will be set to prevent falling or moving of parts should any hydraulic line or control device fail.

Workers will climb carefully with handholds and grab irons, not jumping on or off any machine, and in no case while the machine is in motion.

All signals to Operators will be given by a designated, trained Signaller.

Rotating parts, belts, gears and moving machine parts will be covered by guards.

Crane booms shall have boom stops limiting raising of boom to 88° elevation.

Booms will have approved elevation indicator.

Tractors, graders, fork lift trucks, dump trucks, truck cranes and the like will be equipped with approved reverse signal alarms sounding automatically.

Tractors, dozers, front end loaders or graders will have seat belts and effective rollover bars certified to S.A.E. Standards or previous Corps approval.

Solid and level standing will be provided for trucks and truck cranes, and outriggers will be set.

Heavy hauling units and trucks over 5 tons will be equipped with emergency brakes automatically stopping the machine if service brakes should fail.

Dual wheels on vehicles will have stone ejectors between each pair.

Tracked and wheel vehicles will be cleaned of all earth by water under pressure, and all hand tools will be cleaned of earth by wire brushing, prior to removal from the site.

Heavy tires with locking rings will be inflated only in safety cage.

No man will be permitted to ride in any truck body, crane hook or bucket.

All truck bodies carrying loose materials will be covered.

Fuel truck will be bonded with a cable to machine being fueled to prevent static discharge.

All repairs of hydraulic systems will be with new, manufacturers' parts.

Danger area of crane swing will be barricaded.

Tag line will be used to control swing of suspended loads.

Barriers are to be set to prevent vehicles overrunning embankment.

Man working in bucket of hydraulic lift will be tied off with safety belts and lifelines to independent line secured to boom tip. Bucket will not be used for support of ladder, plank or walkway. Motion of basket will be controlled by man aloft. Outriggers will be properly set before lift.

Tag line will be used to control swing of suspended loads.

Men will not stand in leads while driving or pulling piles.

Danger area of crane counterweight swing will be barricaded.

Mortar mixer will be screened with mesh having max. 2 inch spacing.

Circular saws will be guarded, and radials will have spring return.

Masonry saws will run wet.

Barriers will be set to prevent vehicles overrunning edge of embankment.

Hoist lines and booms of equipment will be kept at least 10 feet away from overhead wires.

## 12. Blasting & Explosives.

All blasting, loading and firing will be under the personal supervision of a licensed Blaster, and in accordance with IME-20 handbook.

Explosives will be delivered daily for one day's use and not stored on the project.

Explosives and detonators will be carried in separate approved containers, separated as far as possible,

lined with wood, securely locked, and marked EXPLOSIVES.

Every shot will be fired under protection of approved blasting mats.

No drilling will be done closer to a loaded hole than the depth of the hole.

Explosives will not be loaded in the prospect of thunder storms, indicated by Weather Bureau or Coast Guard warnings, observation, and static detector kept on the site. At this project, AM radio may be used as static detector.

Signs will be mounted warning all persons to TURN OFF TWO WAY RADIOS when approaching explosive loading areas.

Warning signals, signs and watchmen will be used to keep all persons away from vicinity of blasts. No shot will be fired until careful search shows every person is warned away from the area.

Switch for firing will be kept locked until ready to fire, and lead wire will not be attached until signal has been given.

All blasting will be done during daylight.

Non-sparking tools shall be employed at all times during blasting.

Primers will not be made up near magazines or in advance of loading.

All holes will be full-stemmed. Mud-capping will not be allowed for secondary breaking.

Blasting signals to be posted and disseminated are:

Prior to Blast.....

Signal for firing....

All clear to return....

Thorough search is to be made for unexploded charges or detonators.

Approved plan of loading density, delays and spacing will be increased only after approval of trial effects. Blasting log will be kept throughout.

Vibration analysis will be conducted on the project to measure energy release.

Vehicles used for transporting explosives will be inspected in accordance with DOT regulations, and report of inspection on DD Form 626 will be filed at the project.

Theft or loss of explosive components will be reported within 24 hours on ATF Form 4712 to Regional Director, ATF, Department of the Treasury North Atlantic Region.

**13. Chain Saw.**

- Safe footing will be cleared or platform provided before sawing.
- Search will be made for tramp iron before cutting.
- Watchman will protect Sawyer from falling timbers during sawing.
- Chain saws will be stopped and blades guarded before carrying, and motor will be stopped for fueling. Gas will be handled only in approved safety cans.
- All Sawyers will wear hard hats, eye protection, and leg protection.
- No overhead cuts will be made, and hung timbers will be dragged down, not sawed down.
- No man will work alone with chain saw.

**14. Wood Chipping Machine.**

- Operator thoroughly instructed in safe use and maintenance of chipper.
- All guards will be replaced after adjustment or repair before starting chipper.
- Shut off machine before adjustment or clearing stoppage.
- Feed no material to chipper while prime mover is in traveling position.
- Block wheels and set brakes after every move before starting chipper.
- Clear branches to width of throat before feeding any wood in chipper.
- Wear goggles and non-slip soles of shoes while operating chipper.
- No man rides on unit except in cab of prime mover.
- Chipper will be equipped with quick shut-off.

**15. Coal Tar Poisoning.**

- All workers will be explained the carcinogenic effects of poisoning from coal tar in bituminous materials.
- Full face shields/masks and protective ointment will be used to prevent skin and eye contamination. Respirator filters will be of approved organic-vapor type, and not used past effective service life.

**16. Asbestos Inhalation.**

- Workers with asbestos will be fully instructed in the fatal long term effects of asbestos particle inhalation.
- Workers will wear filter-masks to prevention inhalation of asbestos fibres.
- Asbestos material will be handled wet, and areas of use will be isolated with partitions, exhaust ventilation, and kept clean.

**17. Toxic Materials.**

- Workers will be instructed in the toxic effects of materials.
- Particular hazards are encountered in use of the following:

	Flash Point	Flammable Limit	Threshold Limit
		% by Vol in Air	Value
Normal Butanol	84°F	1.4%	100 ppm
Red Lead & Lead Fume	-	-	0.15 mg/Meter <sup>3</sup>
Zinc Oxide	-	-	5 mg/Meter <sup>3</sup>
Toluol (Toluene)	40°F	1.2%	100 ppm
Cresol (Skin)	-	-	5 ppm
Carbon Monoxide	-	-	50 ppm
Methyl Ethyl Ketone (2-Butanone)	21°F	1.8%	200 ppm
Methyl Isoamyl Ketone	-	-	100 ppm
Methyl Isobutyl Ketone (Hexone)	73°F	1.6%	100 ppm
Xylene (Xylol)	82°F	1.0	100 ppm
Chlordane (on skin)	-	-	0.5 mg/Meter <sup>3</sup>
Hentachlor (on skin)	-	-	0.5 mg/Meter <sup>3</sup>

- These materials will be prevented from contact with skin or eyes and being breathed by use of approved canister respirators, eye goggles and face shields, and wearing of clothing and rubber gloves on exposed skin.
- Men will be limited to time and concentration limits of toxic materials mandatory under Par. 1910.93, Title 29, CFR.
- Use of Methyl Normal Butyl Ketone is prohibited.



13. Floating Plant of General and Subcontractors and Suppliers.

Each vessel will be inspected before use and completed ENG Form 3579 filed at the project.

Towboats will be equipped with calibrated and adjusted radar, gyrocompass, direction finder and depth sounder.

Captains of tugs used for pushing, hauling alongside, or any other towing over 26 feet in length and not required to be certificated by USCG will be licensed by USCG for towing in coastal waters.

All plant will be marked with U.S.C.G. shapes and lights by day and night.

Motor boats will have registration numbers and marked with U.S.C.G. or Auxiliary safety inspection decal.

Non-slip surfaces will be installed on all decks, stair treads, and walkways on the project.

Guard rails will be installed on all weather decks of plant. Where size prevents, grab irons will be installed on superstructure of tugs, launches or boats.

Fenders will be installed between units of floating plant.

Boarding ladders and gangways with hand rails will be used between vessels and piers.

Fixed ladders up boom, A-frame or spud will have attached safety climbing devices for attachment of safety belts, or be enclosed in safety cage.

Rescue drill will be rehearsed monthly by trained crew.

Radio communication will be maintained with shore while vessel is at sea.

Life ring on 50' line will be mounted each side of deck, with water light.

Flags or banners will be placed on all cables stretching across water ways.

Cooks and food handlers will have current medical examination posted in serving space.

Toilets afloat will comply with anti-pollution laws.

Crews will be instructed against the hazards of nylon or artificial fibre towlines which can break without warning.

Holdbacks or rings will be installed to secure loose articles aboard during rough weather.

Vessels having power plants enclosed shall be provided with built-in automatic CO<sub>2</sub> fire extinguishing systems.

Fuel shut-off valves will be accessible from outside compartments.

Deck loads will be secured and loading limited to safe capacity.

Hull repairs will be completed watertight and thoroughly inspected before moving vessel.

Doubling plates, bitts and deck fittings will be painted yellow, and top and bottom steps of ladders and all coamings will be painted with wide yellow and black diagonal stripes.

Cable ends will be seized.

Welded connections to be kept painted to prevent weakening from corrosion.

Flood lights will be installed for all work during hours of darkness.

Electric systems are to be grounded. Wiring to be secured to bulkhead or overhead, and all penetrations of deck, bulkhead or overhead to be bushed with insulation. Electrical systems are to be kept dry.

Anchored plant will be lighted at night.

No man will be permitted to walk the dredge pipe before a non-slip walkway not less than 20 inches wide and provided with at least one hand rail 42 inches in height has been installed.

Joints in pipe line will be made up above the water line.

Pipe sections on deck of barge or truck will be blocked against rolling.

Pipe lines will be lighted at night to warn water traffic.

13. Safety Sign in accordance with Standard Drawing STD-36 will be erected where directed by the Government.

14. Emergencies

In the event of warning of severe storm, personnel will be evacuated and equipment secured as directed by the Superintendent to prevent loss or damage.

In the prospect of thunder storm, all work will be suspended.

For tornado watch, equipment will be removed from exposed positions and personnel will be protected. Crane booms will be laid down.

All personnel will be instructed in escape from quicksand; lie flat and roll with extreme slowness to solid ground. Yell as loudly as possible for help.

If a man falls in the water, the alarm to be given is the signal for which the workers are trained in recognition, that is:

and the previously-trained rescue team will recover. Victim will be treated for resuscitation or immersion as necessary before evacuation. Crew for rescue will be designated for each shift:

In Charge: \_\_\_\_\_

Team Members: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

15. Accident Reporting, Analysis and Prevention

Every accident will be reported to the Resident Engineer. Serious accidents will be reported immediately, and to New England Division in the absence of a Government representative.

Accident will be recorded by the Superintendent immediately without waiting for final determination of last penny of cost or hour of disability.

Supervisor will analyze unsafe conditions, defective equipment, failure of maintenance or improper acts, then initiate corrective actions to prevent recurrence, including comprehensive training.

Supervisors at all levels will follow-up by training and observation directed to prevention of repetition. Weekly safety meetings will review accidents and discuss remedial action by all workers.

Construction Company

Signed.....  
President

## WEEKLY SAFETY MEETING

Appendix C2

NEDSO

Date held \_\_\_\_\_

THRU: Area Engineer, \_\_\_\_\_ Area

Time \_\_\_\_\_

TO: Safety Office, NED

1. Weekly safety meeting was held this date for the following personnel:

Contract No. \_\_\_\_\_ Contractor \_\_\_\_\_

Conducted By \_\_\_\_\_ Personnel present (Contr) \_\_\_\_\_  
(Sub) \_\_\_\_\_

Subjects discussed (Note, delete, or add): (Govt) \_\_\_\_\_

Individual Protective Equipment -

Prevention of Falls -

Safe Lifting Techniques -

Emergency Communications -

Fire Prevention -

Sanitation, First Aid -

Tripping Hazards - trash, hose, nails in lumber -

Staging, Ladders, Concrete Forms -

Hand Tools, Portable Power Tools, Woodworking Machinery -

Equipment Maintenance (Zero defects) -

Hoisting Equipment -

Ropes, Hooks, Chains and Slings -

Electrical Grounding, Temporary Wiring -

Lockouts for safe clearance procedures - electrical, pressure, moving parts -

Welding -

Excavations -

Loose Rock and Steep Slopes -

Explosives -

Water Safety -

Other -

Prepared by \_\_\_\_\_ Title \_\_\_\_\_

2. Forwarded.

Signature \_\_\_\_\_  
Resident Engineer

CF:

## SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND

CONTRACTOR	CONTRACT NO.
TYPE OF EQUIPMENT	MACHINE NO.
DATE OF INSPECTION	
INSPECTED BY (Signature)	APPROVED BY (Signature)

NOTE: Corps of Engineers General Safety Requirements references are shown in Parentheses. Before any machinery is placed in use, it shall be tested and inspected by a competent mechanic and certified to be in safe operating condition. Records will be maintained readily available for inspection at the site. Inspection will be renewed within 6 months.

TRACTORS, TRUCKS, CRANES, SHOVELS, EARTH-MOVING EQUIPMENT	YES	NO	NOT APPL.
1. Is lock provided to prevent starting by unauthorized persons? (18A10)			
2. Is maintenance schedule conforming with manufacturer's recommendations kept for this machine? (18A02)(18A03)			
3. Are adequate Class B fire extinguishers installed on the equipment charged and ready for use, suitably placed, and distinctly marked, and is accessibility to them not obstructed? (13A02)(13A03)			
4. Are Operators experienced and able to read and understand signs, notices, operating instructions, and signals to be used? (05A07)			
a. Are Crane Operators 21 years of age? (05A04)			
b. Are Drivers of motor vehicles used on highways over 18 and have a valid license? (05A06)			
c. Is there a known heart condition, epilepsy, or other ailment detrimental to safe operation of the equipment? (05A01)			
5. Operating Test. Prior to being placed in operation all hoists, cranes and derricks will be tested using not less than 125% of the maximum anticipated load at the maximum boom radius to be used during operations. All motions of equipment will be performed during test at variable boom angles. (18D01)  Particular attention shall be given that under no circumstances will the maximum anticipated load used for computing static test load exceed the manufacturer's rating. The contractor will provide the test weights. Date _____ Weight of static test load _____ tons. Maximum radius at which test conducted _____ ft. Length of boom _____ ft.			
6. Is a safe-load-capacity chart ENG Form 3364 for various boom radii posted in the cab of the crane? Is this chart applicable to present boom length, counter weight, etc.? (18C05)(18E01)			

TRACTORS, TRUCKS, CRANES, SHOVELS, EARTH-MOVING EQUIPMENT	YES	NO	NOT APPL
7. Is a warning sign ENG Form 3363 for overhead electric lines posted at Operators position in crane? (15E08)			
8. Are all self-propelled construction units, - except light service vehicles such as panels, pick-ups, or station wagons and heavy crawler-type cranes, power shovels, back-hoes and draglines, - equipped with a reverse signal alarm which will operate automatically when the vehicle moves in reverse and giving approved audible sound alarm? (18B01)			
9. Do tractors, dozers, front end loaders, graders and rollers have seat belts and rollover bars certified to S.A.E. Standards or previous Corps of Engineers approval? (18A20)			
10. If used for clearing of woods, do tractors, dozers and similar machines have heavy canopy or grille to protect Operator from falling or flying objects? (18A19)			
11. Are belts, gears, shafts, pulleys, sprockets, blades, drums, flywheels, chains, or other reciprocating, rotating or moving parts adequately guarded? (18B03)			
12. Are hook rollers free to turn and secured on turntable?			
13. Are all hot pipes and surfaces exposed to accidental contact suitably guarded or insulated? (18B04)			
14. Are fuel tanks located so that spills or overflows will not come in contact with engine, exhaust, or electrical connections? (18B05)			
15. Are exhausts and discharges so directed as not to endanger workmen or obstruct view of operator? (18B06)			
16. Are platforms, catwalks, steps, hand holds, and guardrails provided to assure safe footing and accessways? (18B08)			
17. Are cranes and derricks equipped with boom angle indicator and load-indicating device to prevent overloading? (18C14)			
18. Are all drums on load hoisting equipment equipped with dogs, pawls, or other positive locking devices? (18C03)			
19. Is there sufficient cable to allow two full wraps of cable on drums at all working positions? (18C07)			
20. Is hoist braking equipment capable of holding at least the full test load? (18C04)			
21. Is tagline provided to be attached for controlling swing of crane lifts? (18C10)			
22. Is the crane equipped with a shock-absorbing type boom stop? (Cable stops and welded struts are unacceptable) (18D03)			
23. Are guard rails, barriers and warnings placed around danger area to prevent persons being struck by swing of counterweight or cab? (18A21)			

TRACTORS, TRUCKS, CRANES, SHOVELS, EARTH-MOVING EQUIPMENT		YES	NO	NOT APPL.
24.	Do all points requiring lubrication during operation have such fittings located or guarded in such manner that personnel servicing the equipment are protected from injury? (18A25)			
25.	Do all modifications, extensions, replacement parts, and/or repairs to equipment maintain the minimum factor of safety as the original equipment with new, manufacturer's parts? (18C02)			
26.	Are any of the structural members bent or rusted, or do they otherwise show signs of damage?			
27.	Are running lines of hoisting equipment exposed to hazardous contact adequately guarded? (15E09)			
28.	Are drums, sheaves, sheave pins, and pulleys smooth and free of defects? (17C07)			
29.	Are wire rope, sockets, splices, thimbles, clips, and chains adequate and properly applied and in good operating condition? (17C01-11)(17D01-03)			
30.	Are hooks, shackles, rings, pad eyes, and other fittings in good condition? (17A05)			
31.	Are fueling cans used with this equipment approved type safety cans? (12E25)			
32.	Are clamshell, orange-peel and dipper buckets all without missing teeth, worn shell, makeshift bolted connections or holes rusted through shell?			
33.	Are concrete buckets equipped with extension to gate lever for safe dumping?			
34.	Are adequate guardrails provided around the skips of pavers, concrete mixers and similar equipment? Guard is required for open end of skip. (18B07)			
35.	Are all motor vehicles equipped as follows? (19A06)(19A12)			
	a. Directional signal lights both front and rear?			
	b. Two headlights: one on each side; one red tail light and one red or amber stop light?			
	c. Rear view mirror?			
36.	Are service and parking brakes in good operating condition? (19A07)			
37.	Are trucks over 5 tons and heavy hauling units equipped with emergency brakes automatically stopping machine if service brakes should fail? (19A07)			
38.	Are windshields on equipment provided with windshield wipers in proper operating condition? (19A10)			
39.	Is all glass in windshields, cabs, windows and doors of safety glass without holes, breaks or cracks? (19A15, 19A16)(18A18)			
40.	Are running boards and steps of vehicles provided with non-slip surfaces? (19A14)			

TRACTORS, TRUCKS, CRANES, SHOVELS, EARTH-MOVING EQUIPMENT	YES	NO	NOT APPL.
41. Are dump bodies provided with hinged struts or other suitable device for locking body in raised position? (19A20)			
42. Are tail-gate dumping devices so arranged that Operator will be in the clear while dumping load? (19A22)			
43. Are approved seat belts installed for driver and all passengers?			
44. Is engine equipped with power-operated starting device? (19A23)			
45. Is air-pressure gage in operative condition on equipment with air brakes? (21A10)			
46. Is air tank equipped with drain valve in an accessible position for daily draining? (21B24)			
47. Are towing devices structurally adequate and properly mounted with safety chains to prime mover? (19A17, 19A19)			
48. Are stone ejectors mounted between each pair of dual wheels?			
49. Is there an approved cover prepared for covering loads of loose material while on the road?			
PRESSURIZED, ELECTRICAL, POWER SYSTEMS			
50. Is an approved pressure gage installed on pressurized system? (21A10) No valve between gage and vessel or equipment? (21A10, 21A12)			
51. Is safety or relief valve sealed after adjustment? (21A14)			
52. Does receiver of air compressor bear certificate of hydrostatic pressure test at 125% of working pressure within two years? (21A01)			
53. Are all pneumatic hose connections provided with safety lashing? (21A18)			
54. Are guards for protection of Operator's feet installed on power screeds, concrete finishing machines, mowers, etc.? (18B11)			
55. Is there a guard mounted on all chain saws, circular saws, and band saw blades? Are radial saws provided with automatic retracting device? (16C01)			
56. Have all enclosed scaffold machines been dismantled, inspected, lubricated, and tagged with name and date by a Licensed Rigger?			
57. Is electric welding machine bonded to engine? (15C02)			
58. Are all portable electric generators and electrical equipment properly grounded to water lines or ground rods?			
FLOATING PLANT			
59. Are all decks, stair treads and walkways of non-slip surface? (26B03)			
60. Are guard rails and grab irons mounted on all weather decks? (26B10)			
61. Is built-in automatic fire extinguishing system installed at enclosed power plants? (26C02)			
62. Are U.S.C.G. lights and shapes mounted on vessel? (26A01)			

FLOATING PLANT	YES	NO	NOT APPL.
63. Are safe boarding ladders, and gangplanks with handrails provided? (26B01)			
64. Is rescue boat prepared and used only in emergency? (07G01-07)			
65. Does motor boat carry decal of safety inspection by U.S.C.G. or Auxiliary?			
66. Is there U.S.C.G.-approved life vest for every person aboard? (07E02)			
67. Is a life ring on 50-foot line hung on each side of deck? (07F04)			
68. Are waterlights attached to ring buoys? (07F06)			
69. Are safe climbing devices or enclosing cages built on ladders up boom and spud or drilling mast? (30B14, 30B15)			
70. Are deck obstructions painted with wide diagonal yellow and black stripes? (26B09)			
71. Are all repairs completed watertight and thoroughly inspected? (26A06)			
72. Is vessel certificated by U.S.C.G.? (26A01)			
73. Is Captain of uncertificated vessel over 26 feet long Licensed by U.S.C.G. for towing in this area? (26A02)			
74. Does dredge pipe line have attachments for walkway and hand rail? (26B06)			
75. Remarks:  Other equipment inspected. (Conveyors, batch plants, elevators, material hoists, cableways, airtracks, earth augers, special purpose).			



CONTRACTOR'S FIRE PREVENTION GUIDE

The following fire prevention practices are considered to be reasonable requirements for adherence by private contractors performing work on properties under the jurisdiction of the Commanding Officer.

1. Prior to performing "Hot Work" (welding, burning, lead melting, blow torches, tar pots, etc.) or operating other flame producing devices, the contractor shall request a hazardous operations permit from the Activity Fire Department for each hazardous operation.
2. Oil painting materials (paints, brushes, empty paint cans, rags, overalls, drop cloth, etc.) and flammable liquids shall be removed from the building at the end of work hours each day. Such painting materials and flammable liquids shall be stored outside in a suitable locker or box located a safe distance from any structure.
3. Accumulations of trash, paper, shavings, sawdust, excelsior, boxes and other packing materials shall be removed from the building at the close of work day and disposed of in the proper containers located away from the building. The areas outside of buildings undergoing work shall be kept reasonably clean of trash, paper and/or other discarded combustibles.
4. The storage of lumber, roofing paper or other combustible supplies needed during construction shall be kept a safe distance from structures.
5. All portable electric devices (saws, sanders, compressors, extension cords or lights) shall be disconnected at the close of each working day.
6. Contractors, when working in buildings or areas, shall require their men to familiarize themselves with the location of the nearest fire alarm boxes.
7. Any fire, NO MATTER HOW SMALL, shall be reported to the fire department immediately by pulling the nearest fire alarm box or by station telephone, extension 3333. Extinguished fires shall be reported promptly to the fire department by telephone.
8. Fire hose or extinguishers in building shall not be removed from their location or used for any purpose other than fire. Fire hydrants shall not be used without special permission from the Activity Public Works Department. Contact the inspector when it is desired to use hydrants, telephone extensions 3535 or 3955. A clear space of 15 feet on both sides of fire hydrants shall be maintained at all times.
9. Responsibility for operation of all valves on the water distribution system rests with the Utilities Branch which provides personnel for operation of valves upon request. Make all such requests to the inspector, telephone extensions 3536 or 3955. No other persons are authorized to operate these valves.
10. Smoking in buildings undergoing work, should be discontinued one-half hour before the close of work each day. Smoking is strictly prohibited in or near areas where flammable liquids, compressed gases, highly combustible materials or explosives are stored, handled or processed.
11. Prior to quitting time a reliable person delegated by the contractor should make a check of the building and/or area to obtain compliance with the above and to insure that the building and area are left in a fire safe condition.

COMMON SAFETY VIOLATIONS

1. Have someone at the job site responsible for safety enforcement. Normally, this is your superintendent who is required on-site at all times when prime and/or subcontractor personnel are working. Knowing who is responsible for safety enforcement allows this office ready access to someone who can immediately correct unsafe practices. Also, it identifies where there is a breakdown in your safety program should this office have to intervene and routinely correct safety problems.

2. Accident Reports: Any accident involving injury, lost time or in excess of \$250 damage must be investigated and reported to the Contracting Officer.

3. Medical Facilities

- a. The Submarine Base Medical Facility is available for emergency treatment.
- b. The nearest civilian hospital is Pequot Medical Outpatient Treatment Center, Groton. The phone is 446-8265.
- c. Provide first aid kits on the job site.

4. Safety Apparel

- a. At the beginning of your project, if the work warrants, designate your work site as a hard hat area, mark the site as such, and enforce strict compliance.
- b. Have eye, face and ear protection equipment readily available.

5. Waterfront Work

- a. Wear approved life vests
- b. Provide lifelines and ring buoys
- c. Provide a skiff

6. Flagman: When a traffic lane is obstructed, a flagman is required to direct traffic. When the lane obstruction is for longer than one work day, the period of flagman coverage will be 0715 - 1645 daily. The flagman must wear proper protective clothing.

7. Material Disposal: Construction debris and trash shall be removed from the work site daily. No dumping is allowed on Government property.

8. Construction Equipment

- a. Inspect equipment daily
- b. Ensure all lights, signals and backup warning devices are operable.
- c. Do not use construction equipment as personnel hauling vehicles.
- d. Hoisting equipment shall be load tested annually.
- e. A rigger shall be used in conjunction with all crane operations. Correct hand signals shall be used.
- f. All construction vehicles must be state registered and in safe working order.

9. Scaffolds and Ladders

- a. Scaffolds over six feet in height shall have guardrails with intermediate rail and toeboard.
- b. Rope is not a suitable guardrail.
- c. Protective screening shall be used between guardrail and toeboard if persons work or pass below.
- d. Ladders will only be used for work involving small hand tools and light loads.
- e. Ladders will extend at least 3 feet beyond the landing.
- f. Ladders will be tied off or securely fastened top and bottom and also sufficiently at intermediate points.

10. Roofing Practices

- a. Provide protection which will prevent workmen from slipping from the roof. This would include lifelines, railings, catwalks, etc.
- b. Use approved mechanical hoisting means when lifting materials to roof levels 16 feet or greater.
- c. Provide a kettleman full time at asphalt kettles. The kettleman will wear protective face guards and full clothing to protect from asphalt burn.
- d. All kettles must have a working thermometer. Additionally, fire extinguishers must be positioned by the kettles.
- e. Use enclosed chutes and containers for dropping roofing removals.

11. Excavation

- a. Excavations greater than 5 feet in depth shall be shored or laid back to an angle of repose determined by qualified design personnel.
- b. Provide access ladders every 25 feet in excavations greater than 4 feet in depth.
- c. Excavations shall be fully protected by barricades to prohibit any pedestrian or vehicle access to the excavation. They shall be well lighted at night.
- d. All excavated material must be retained at least 2 feet away from the edge of the excavation.

12. Blasting: Meet with contracting representatives prior to any blasting to formalize procedures and obtain the necessary blasting permit. All blasting will be in accordance with the procedures established in Subase New London Instruction 8020.1C dated 18 February 1977.

GUIDELINES FOR CONTRACTOR'S SAFETY PROGRAM

An acceptable contractor proposal for implementing the accident prevention/safety program should include, but not be limited to, the following:

1. A statement of hazards expected to be encountered and the proposed method of guarding or correction.
2. Plan should acknowledge that the prime contractor is totally responsible for compliance with the Occupational Safety and Health Act which requires a place of employment where no laborer or mechanic, including those of any subcontractor, employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to his health or safety.
3. A layout drawing of the site indicating access roads, fire/ambulance lanes, location of first aid station, location of required danger alarm system, tentative location of fire extinguishers and water barrels, location of offices, parking for private vehicles, parking for equipment, storage areas, and the name of the person responsible for maintaining the emergency routes.
4. A plan for providing medical service including a sketch or map indicating a definite routing to medical facilities and name of hospital/doctors. A copy is to be posted in the first aid station.
5. The danger alarm system is to be a siren, public address system or other approved system capable of signaling an emergency to all workers at the construction site. In addition to a signaling system, an operation plan, for assuring prompt evacuation of the site, is to be included and periodically adjusted to reflect construction progress. The plan should indicate the supervising assignment/responsibility and a positive program to familiarize all workers with the exiting plan.
6. The plan must include notification of the fire department as to location of fire lanes to insure their access into the construction site.
7. The plan should indicate a proposed method of illumination during day and night hours at entry and exit points as well as for the work area.
8. A well-constructed fence to protect stored materials, equipment, contractor personnel, and others in close proximity is recommended and in some cases required.
9. The plan should state where the required posters will be placed.
10. The plan must name the contractor's safety representative, state his qualifications, and delineate his authority to direct work stoppage and expend funds to eliminate conditions of imminent danger. The plan should include reporting and record-keeping requirements and the frequency at which the safety representative will make recorded safety inspections.
11. Plan should state company policy for initial indoctrination of all employees to the safety policy.
12. The plan must be specific as to the contractor's proposal for compliance with the requirements of the Corps of Engineers Manual EM-385-1-1 of 1 March 1967. A general statement that the contractor plans to comply with the requirements of the Corps of Engineer Manual is not acceptable. The pertinent provisions of the Manual should be addressed by section.
13. Plan must provide for frequent and regular safety inspections of the construction site.
14. Contractors plan for continued safety education for all his work force including weekly, five minute, or lunch-box type safety meetings.
15. An estimate of the greatest number of employees to be working at any one time during peak construction periods.
16. All construction areas shall be designated "HARD HAT AREAS" and warning signs posted at all entry points (EM-385-1-1, Paragraphs 07.C.03 and 07.C.04).

17. Outline plans for testing and inspection of equipment requiring use of back-up alarms (EM-385-1-1, Section 18.B)
18. Outline of plans including sketch indicating location for storage of flammable liquids, paint, etc. (EM-385-1-1, Section 12.E).
19. State plan/procedure for inspection and testing of electrical tools and appliances for required ground (EM-385-1-1, Section 15.C).
20. State plan and provide sketch for covering holes/openings in floors and walls. (EM 385-1-1, Section 31A).
21. State policy for use of safety belts, life lines, lanyards, and safety nets (EM-385-1-1, Sections 07.A and 07.D).
22. State plan for welding protection including shields, fire extinguishers, ventilation, fire watches, and welding permits (EM-385-1-1, Section 14A).
23. State plan for general fire protection. (EM-385-1-1, Section 23.A).
24. State plan for scaffolding as to type, planking, size, cleats, guardrails, toe boards, access to working platform, etc. (EM-385-1-1, Section 22).

**NOTES:**

**A. Wearing of Protective Equipment.**

1. Hard-toe Shoes. To prevent toe and foot injuries, it is mandatory that safety shoes be worn for the following operations:
  - (a) Use of pavement breakers, tampers, air hammers, and similar equipment.
  - (b) Handling of concrete blocks, rocks, stones, and similar objects.
2. Protective or Hard Hats. The U.S. Navy Manual of Safety Equipment, NAVMAT P-10470, establishes the criteria for acceptable hard hats. Hard hats shall be worn by OICC MIDPAC personnel while at the construction sites to prevent head injuries from flying or falling objects and when visiting an operation or activity where the wearing of hard hats is customary. The hard hats shall bear the activity name "OICC MIDPAC" and the name and position title of the civilian military personnel.
3. Hearing Protector. The Secretary of the Navy, by message 101628Z December 1976, stressed the need to prevent noise induced hearing loss and placed emphasis on supervisory enforcement of wearing protective equipment. Accordingly, hearing protection shall be worn when employees are exposed to excessive noise emitting sources. Some examples are shown in Supplement 3210-2.

**B. Inspection of cranes and weight-handling equipment shall be in accordance with Section XVIII of the Corps of Engineers Manual, EM 385-1-1, which requires that "before any machinery or mechanized equipment is placed in use, it shall be inspected and tested by a competent mechanic and certified to be in safe operating condition. Records of tests and inspections shall be maintained at the site and shall be available on request to the Government representative incharge." It is directed that contractors provide the ROICC with a letter statement for each piece of weight-handling equipment, i.e., all types of cranes, hoists, shovels, draglines, etc., before it is brought on the station or job site, giving the following information:**

1. Identification of equipment
2. Date of inspection
3. Certification of safe operating condition in all respects as outlined in the aforementioned manual.
4. Name, title, and signature of qualified individual making the inspection.

## DAILY SAFETY REVIEW

The most effective way to achieve good safety is through strict enforcement of safety standards. For construction these standards are the Corps of Engineers Safety Manual, EM 385-1-1 as amended.

While the ROICC must require contractor compliance with all pertinent provisions of the EM 385-1-1, there are several requirements found on virtually every construction site. These several are listed to aid the ROICC upon his job site visit:

1. Is an uncontaminated drinking water source available? (03.A.01, through 3.A.07).
2. Are toilet facilities available? (03B)
3. Are medical facilities available? (04.A)
4. Is protective eye wear used when needed? (07.A.10, 07.A.11, 07.A.12, and 07.A.13)
5. Are workmen wearing proper hard hats? (7.C.01, 7.C.03) See note 1.
6. Are dusts, mist, fumes, gases or other atmospheric impurities being controlled or personal protective equipment provided? (08.A.01, 08.A.09, 08.A.12)
7. Are measures for heating devices or melting kettles adequate? (08.B.01, 08.B.04, 08B.05)
8. Are lighting intensities adequate? (09.A.03)
9. Are nails, in used or scrap lumber, bent over or withdrawn? (11.B.03)
10. Are stairways, passageways and accessways, kept free of materials, supplies, tools, extension cords, hoses, etc? (11.I.01, 11.I.03, 11.I.07, 14A.09, 30A.02)
11. Are measures taken, adequate for above ground flammable storage tanks? (12.D.14, 12.D.15)
12. Are flammable liquids being handled in approved hand containers? (12.D.41)
13. Are fire protection measures adequate? (13.A.0)
14. Are emergency phone number posted near phone? (13.G.03)
15. Are electrical provisions adequate? (15.A.02, 15.A.04, 15.A.07, 15.B.01, 15.B.07, 15.C.01, 15.C.03, 15.D.08, 15.D.10)
16. Are hand tools in good repair and used properly? (16.A.01, 18.L.07, 16.D.03, 16.E.02)
17. Are ropes and slings used properly? (17.A.02, 17.C.10)
18. Has machinery and equipment been tested and inspected? (18.A.01, 18.C.01) See Note 2.
19. Are gas cylinders used and protected properly? (21.D.04, 21.D.05, 21.D.06, 21.D.11, 21.D.13, 21.D.14, 12.A.05)
20. Are scaffold and working platforms placed and used adequately? (22.A.07, 22A.08, 22.A.16, 22.A.19, 22.A.21, 22.A.23, 22.B.10, 22.C.01, 22.G.20)
21. Have proper measures been taken to protect workmen in excavations? (23.A.01, 23.A.07, 23.A.08, 23.B.01)
22. Are ladders used properly? (30.B.06, 30.B.07, 30.B.10, 30.C.04)
23. Are persons protected at floor and wall openings? (31.A.01, 31.A.05)
24. Are personnel protected against excessive sound pressure levels? (32.A.01, 32.A.02)

LABOR STANDARDS INTERVIEW		Form Approved Budget Bureau No. 22-R 263	
CONTRACT NUMBER		EMPLOYEE'S NAME AND ADDRESS (Include ZIP Code)	
PRIME CONTRACTOR			
EMPLOYER		WORK CLASSIFICATION	WAGE RATE
		SUPERVISOR'S NAME	
DO YOU WORK OVER 8 HOURS PER DAY?			(Check Below)
			YES      NO
DO YOU WORK OVER 40 HOURS PER WEEK?			
ARE YOU PAID AT LEAST TIME AND A HALF FOR OVERTIME HOURS?			
ARE YOU RECEIVING ANY CASH PAYMENTS FOR FRINGE BENEFITS REQUIRED BY THE POSTED WAGE DETERMINATION DECISION?			
WHAT DEDUCTIONS OTHER THAN TAXES AND SOCIAL SECURITY ARE MADE FROM YOUR PAY?			
HOW MANY HOURS DID YOU WORK ON YOUR LAST WORK DAY BEFORE THIS INTERVIEW?			
HOURS	WHAT DATE WAS THAT?		
WHAT TOOLS DO YOU USE?			
WHEN DID YOU BEGIN WORK ON THIS PROJECT?			
I HAVE READ THE ABOVE AND CERTIFY IT TO BE CORRECT TO THE BEST OF MY KNOWLEDGE.			
EMPLOYEE'S SIGNATURE			DATE
INTERVIEWER'S SIGNATURE			DATE
INTERVIEWER'S COMMENTS			
WORK EMPLOYEE WAS DOING WHEN INTERVIEWED			
IS EMPLOYEE PROPERLY CLASSIFIED AND PAID? (If additional space is needed, use reverse)			
<input type="checkbox"/> YES <input type="checkbox"/> NO			
ARE WAGE RATES AND POSTERS DISPLAYED?			
<input type="checkbox"/> YES <input type="checkbox"/> NO			
FOR USE BY PAYROLL CHECKER			
IS ABOVE INFORMATION IN AGREEMENT WITH PAYROLL DATA?			
<input type="checkbox"/> YES <input type="checkbox"/> NO			
COMMENTS			
DATE OF CHECK	NAME AND TITLE	SIGNATURE	



WEEKLY PAYROLL  
(SAMPLE)

CONTRACTOR <input type="checkbox"/> OR SUBCONTRACTOR <input type="checkbox"/>		ADDRESS		PAGE 1 OF 1 SHEETS														
NAME JAMES J. JONES		25 Elliot Avenue, New York, New York 10007																
PROJECT OR CONTRACT NO. N62319-68-C 0000		FOR WEEK ENDING 17 JANUARY 1968		PROJECT AND LOCATION HOUSING ALTERATIONS, U.S. NAVAL SUBMARINE BASE, COOLOUT, ALASKA														
PAYROLL NO. 1																		
NAME AND ADDRESS OF EMPLOYEE	WORK CLASSIFICATION	DAY AND DATE							TOTAL FOR PERIOD	HOURLY RATE	CHECK FOR SOCIAL SECURITY	FRINGE BENEFITS PAID IN CASH	GROSS AMOUNT EARNED	DEDUCTIONS			NET AMOUNT PAID	
		S	M	T	W	T	F	S						WITH. HOLDING	SOCIAL SECURITY	OTHER		
EXAMPLES ARE BASED ON THE FOLLOWING: BASIC WAGE RATE \$5.00 per hr. HEALTH & WELFARE 25 per hr. PENSION 20 per hr. VACATION 20 per hr. APPR. TRAINING 01 per hr.																		
EXAMPLE (1) AS PER WAGE DECISION WITH FRINGE BENEFITS PAID TO DONOR BENEFIT PLAN		8	8	8	8	8	8	8	40	\$5.00				\$200.00	30.00	10.00		\$235.00
EXAMPLE (2) AS PER WAGE DECISION FRINGE BENEFITS PAID IN CASH TO EMPLOYEE AND COMPUTED		8	8	8	8	8	8	8	40	7.50				75.00				
EXAMPLE (3) AS PER WAGE DECISION FRINGE BENEFITS INCLUDED IN BASIC HOURLY RATE		8	8	8	8	8	8	8	40	7.50				75.00				
TOTAL																		

1. NAME OF CONTRACTOR: JAMES J. JONES

2. DATE OF FIRST PAYROLL: 17 JANUARY 1968

3. OWNER: JAMES J. JONES

4. PROJECT OR CONTRACT NO.: N62319-68-C-0000

5. FOR WEEK ENDING: 17 JANUARY 1968

6. PROJECT AND LOCATION: HOUSING ALTERATIONS, U.S. NAVAL SUBMARINE BASE, COOLOUT, ALASKA

7. PAYROLL NO.: 1

8. EMPLOYEE NAME AND ADDRESS: JAMES J. JONES, 25 ELLIOT AVENUE, NEW YORK, NEW YORK 10007

9. WORK CLASSIFICATION: AS PER WAGE DECISION

10. BASIC WAGE RATE: \$5.00 PER HOUR

11. HEALTH & WELFARE: 25 PER HOUR

12. PENSION: 20 PER HOUR

13. VACATION: 20 PER HOUR

14. APPR. TRAINING: 01 PER HOUR

15. FRINGE BENEFITS PAID IN CASH TO EMPLOYEE AND COMPUTED: 75.00

16. FRINGE BENEFITS INCLUDED IN BASIC HOURLY RATE: 75.00

17. GROSS AMOUNT EARNED: \$200.00

18. DEDUCTIONS: 30.00 (SOCIAL SECURITY), 10.00 (OTHER)

19. NET AMOUNT PAID: \$235.00

20. SIGNATURE OF CONTRACTOR: JAMES J. JONES

21. SIGNATURE OF OWNER: JAMES J. JONES

22. DATE OF FIRST PAYROLL: 17 JANUARY 1968

23. DATE OF LAST PAYROLL: 17 JANUARY 1968

24. TOTAL FOR PERIOD: 40 HOURS

25. HOURLY RATE: \$5.00

26. CHECK FOR SOCIAL SECURITY: 30.00

27. FRINGE BENEFITS PAID IN CASH: 75.00

28. GROSS AMOUNT EARNED: \$200.00

29. DEDUCTIONS: 30.00 (SOCIAL SECURITY), 10.00 (OTHER)

30. NET AMOUNT PAID: \$235.00

31. REMARKS: (1) AS PER WAGE DECISION WITH FRINGE BENEFITS PAID TO DONOR BENEFIT PLAN. (2) AS PER WAGE DECISION FRINGE BENEFITS PAID IN CASH TO EMPLOYEE AND COMPUTED. (3) AS PER WAGE DECISION FRINGE BENEFITS INCLUDED IN BASIC HOURLY RATE.

## STATEMENT OF COMPLIANCE

PAYROLL NUMBER

PAYROLL PAYMENT DATE

CONTRACT NUMBER

Date \_\_\_\_\_

I, \_\_\_\_\_ do hereby state:  
(Name of signatory party) (Title)(1) That I pay or supervise the payment of the persons employed by \_\_\_\_\_  
(Contractor or subcontractor)on the \_\_\_\_\_; that during the payroll period commencing on the \_\_\_\_\_ day of \_\_\_\_\_  
(Building or work)\_\_\_\_\_, 19\_\_\_\_ and ending the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, all persons  
employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or in-directly to or on behalf of said \_\_\_\_\_ from the full weekly wages earned by any person  
(Contractor or subcontractor)

and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. 276c), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete, that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ - In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ - Each laborer or mechanic listed in the above referenced payroll has been paid as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (Craft)	EXPLANATION

REMARKS

NAME AND TITLE

SIGNATURE

The willful falsification of any of the above statements may subject the contractor or subcontractor to civil or criminal prosecution.  
See Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code

## INSTRUCTIONS FOR PREPARATION OF STATEMENT OF COMPLIANCE

This statement of compliance meets needs resulting from the amendment of the Davis-Bacon Act to include fringe benefits provisions. Under this amended law, the contractor is required to pay fringe benefits as predetermined by the Department of Labor, in addition to payment of the minimum rates. The contractor's obligation to pay fringe benefits may be met by payment of the fringes to the various plans, funds, or programs or by making these payments to the employees as cash in lieu of fringes.

The contractor should show on the face of his payroll all monies paid to the employees whether as basic rates or as cash in lieu of fringes. The contractor shall represent in the statement of compliance that he is paying to others fringes required by the contract and not paid as cash in lieu of fringes. Detailed instructions follow.

### CONTRACTORS WHO PAY ALL REQUIRED FRINGE BENEFITS:

A contractor who pays fringe benefits to approved plans, funds, or programs in amounts not less than were determined in the applicable wage decision of the Secretary of Labor shall continue to show on the face of his payroll the basic cash hourly rate and overtime rate paid to his employees, just as he has always done. Such a contractor shall check paragraph 4(a) of the Statement to indicate that he is also paying to approved plans, funds, or programs not less than the amount predetermined as fringe benefits for each craft. Any exception shall be noted in Section 4(c).

### CONTRACTORS WHO PAY NO FRINGE BENEFITS:

A contractor who pays no fringe benefits shall pay to the employee and insert in the straight time hourly rate column of his payroll an amount not less than the predetermined rate for each classification plus the amount of fringe benefits determined for each classification in the applicable wage decision. Inasmuch as it is not necessary to pay time and a half on cash paid in lieu of fringes, the overtime rate shall be not less than the sum of the basic predetermined rate, plus the half time premium on the basic or regular rate, plus the required cash in lieu of fringes at the straight time rate. To simplify computation of overtime, it is suggested that the straight time basic rate and cash in lieu of fringes be separately stated in the hourly rate column, thus \$3 25/40. In addition, the contractor shall check paragraph 4(b) of the statement to indicate that he is paying fringe benefits in cash directly to his employees. Any exceptions shall be noted in Section 4(c).

### USE OF SECTION 4(c), EXCEPTIONS:

Any contractor who is making payment to approved plans, funds, or programs in amounts less than the wage determination requires is obliged to pay the deficiency directly to the employees as cash in lieu of fringes. Any exceptions to Section 4(a) or 4(b), whichever the contractor may check, shall be entered in Section 4(c). Enter in the Exception column the craft, and enter in the Explanation column the hourly amount paid the employees as cash in lieu of fringes, and the hourly amount paid to plans, funds, or programs as fringes.

DEPARTMENT OF DEFENSE WORK STOPPAGE REPORT		DATE
TO:	FROM:	<input type="checkbox"/> INITIAL REPORT <input type="checkbox"/> FOLLOW-UP REPORT <input type="checkbox"/> FINAL REPORT DATE OF PREVIOUS REPORT
(List additional addressees on reverse)		
To serve as a source document for reporting work stoppages as required by ASPR 12-101.3. Detailed instructions as to disposition of this form are set forth in ASPR 12-101.3 (b), (c) and (d).		
1a. NAME OF CONTRACTOR AND/OR SUBCONTRACTOR INVOLVED, ADDRESS AND TELEPHONE NUMBER  GIVE LOCATION OF DISPUTE IF DIFFERENT FROM ABOVE:		b. NAME OF COMPANY INDUSTRIAL RELATIONS REPRESENTATIVE
2a. ITEM PRODUCED OR PROJECT UNDER CONSTRUCTION		
b. PERCENTAGE OF COMPLETION	c. END ITEM INVOLVED	d. PROGRAM INVOLVED
3. a. <input type="checkbox"/> POTENTIAL STRIKE      b. <input type="checkbox"/> ACTUAL STRIKE		c. DATE AND TIME OF WORK STOPPAGE
d. IF STRIKE IS POTENTIAL, HAS STRIKE VOTE BEEN TAKEN? <input type="checkbox"/> YES <input type="checkbox"/> NO		
4a. NAME AND LOCAL NUMBER OF UNION		c. NAME AND TITLE OF KEY UNION REPRESENTATIVE CONTACTED  d. ADDRESS AND TELEPHONE NUMBER
b. AFFILIATION: <input type="checkbox"/> AFL-CIO <input type="checkbox"/> OTHER (Specify)		
5a. CAUSE OF DISPUTE AND ISSUES INVOLVED		c. WHERE APPROPRIATE, EXPIRATION DATE OF COLLECTIVE BARGAINING AGREEMENT
b. TYPE OF STOPPAGE: <input type="checkbox"/> AUTHORIZED STRIKE <input type="checkbox"/> UNAUTHORIZED STRIKE <input type="checkbox"/> LOCKOUT		
6a. ESTIMATED NO. OF EMPLOYEES ON STRIKE	b. CLASSIFICATIONS (or Unit) INVOLVED	
7a. ESTIMATED NO. OF EMPLOYEES AFFECTED	b. CLASSIFICATIONS (or Unit) INVOLVED, WHERE APPROPRIATE	
9a. HAVE PICKET LINES BEEN ESTABLISHED? <input type="checkbox"/> YES <input type="checkbox"/> NO		b. EFFECT ON INGRESS AND EGRESS OF: MATERIAL      PERSONNEL
10. STATUS OF NEGOTIATIONS		11. PARTICIPATION BY FEDERAL MEDIATOR <input type="checkbox"/> YES <input type="checkbox"/> NO STATE MEDIATOR <input type="checkbox"/> YES <input type="checkbox"/> NO
12. FORECAST OF DURATION OF STOPPAGE	13. ACTION TAKEN BY CONTRACTOR TO MINIMIZE EFFECT OF DISPUTE ON GOVERNMENT CONTRACTS	
14a. CONTRACT NUMBERS	b. FIXED PRICE	c. COST TYPE
15a. DESCRIPTION OF ITEMS READY OR NEARLY READY FOR SHIPMENT		b. POSSIBILITY OF SHIPMENT WITHOUT INCIDENT  <input type="checkbox"/> YES <input type="checkbox"/> NO
16. FINAL REPORT ONLY		
a. STRIKE SETTLEMENT DATE	c. IMPORTANT TERMS OF AGREEMENT	
b. DATE OF RESUMPTION OF WORK	d. MANDAYS LOST (Applicable only to Army Corps of Engineers' contracts and contracts involving Missile and Test Sites)	
TYPED NAME AND SIGNATURE OF REPORTING OFFICIAL		



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**\*\* 3-808 Profit, Including Fees Under Cost-Reimbursement Type Contracts.**

APPENDIX F1 (1 of 2)

**3-808.2 Use of Weighted Guidelines in Connection with Determining Fair and Reasonable Profit for Fixed Price Construction Contracts and Modifications.** In preparing Government estimates and/or where profit is negotiated as an element of price, either prime or subcontractor, a reasonable profit shall be negotiated or determined for each procurement action by using the following procedure as a guide:

(a)

<u>Factor</u>	<u>Rate</u>	<u>Weight</u>	<u>Value</u>
Degree of risk	20		
Relative difficulty of work	15		
Size of job	15		
Period of performance	15		
Contractor's investment	5		
Assistance by Government	5		
Subcontracting	25		
	100		%

(b) Based on the circumstances of each procurement action, each of the above factors shall be weighted from .03 to .12 as indicated below. The value shall be obtained by multiplying the rate by the weight. The value column when totalled indicates the fair and reasonable profit percentage under the circumstances of the particular procurement.

(1) Degree of risk. Where the work involves no risk or the degree of risk is very small the weighting should be .03; as the degree of risk increases the weighting should be increased up to a maximum of .12. Lump sum items will have, generally, a higher weighted value than unit price items for which quantities are provided. Other things to consider: the portion of the work to be done by subcontractors, nature of work, where work is to be performed, reasonableness of negotiated costs, amount of labor included in costs, whether the negotiation is before or after performance of work, etc.

(2) Relative difficulty of work. If the work is most difficult and complex the weighting should be .12 and should be proportionately reduced to .03 on the simplest of jobs. This factor is tied-in to some extent with the degree of risk. Some things to consider: the nature of the work, by whom it is to be done, where, what is the time schedule, etc.

(3) Size of job. All work not in excess of \$100,000 shall be weighted at .12. Work estimated between \$100,000 and \$5,000,000 shall be proportionately weighted from .12 to .05. Work from \$5,000,000 to \$10,000,000 shall be weighted at .04 and work in excess of \$10,000,000 at .03.

(4) Periods of performance. Jobs in excess of 24 months are to be weighted at .12. Jobs of lesser duration are to be proportionately weighted to a minimum of .03 for jobs not to exceed 30 days. No weight where additional time not required.

(5) Contractor's investment. To be weighted from .03 to .12 on the basis of below average, average and above average. Things to consider: amount of subcontracting, mobilization payment item, Government-furnished property, method of making progress payments, etc.

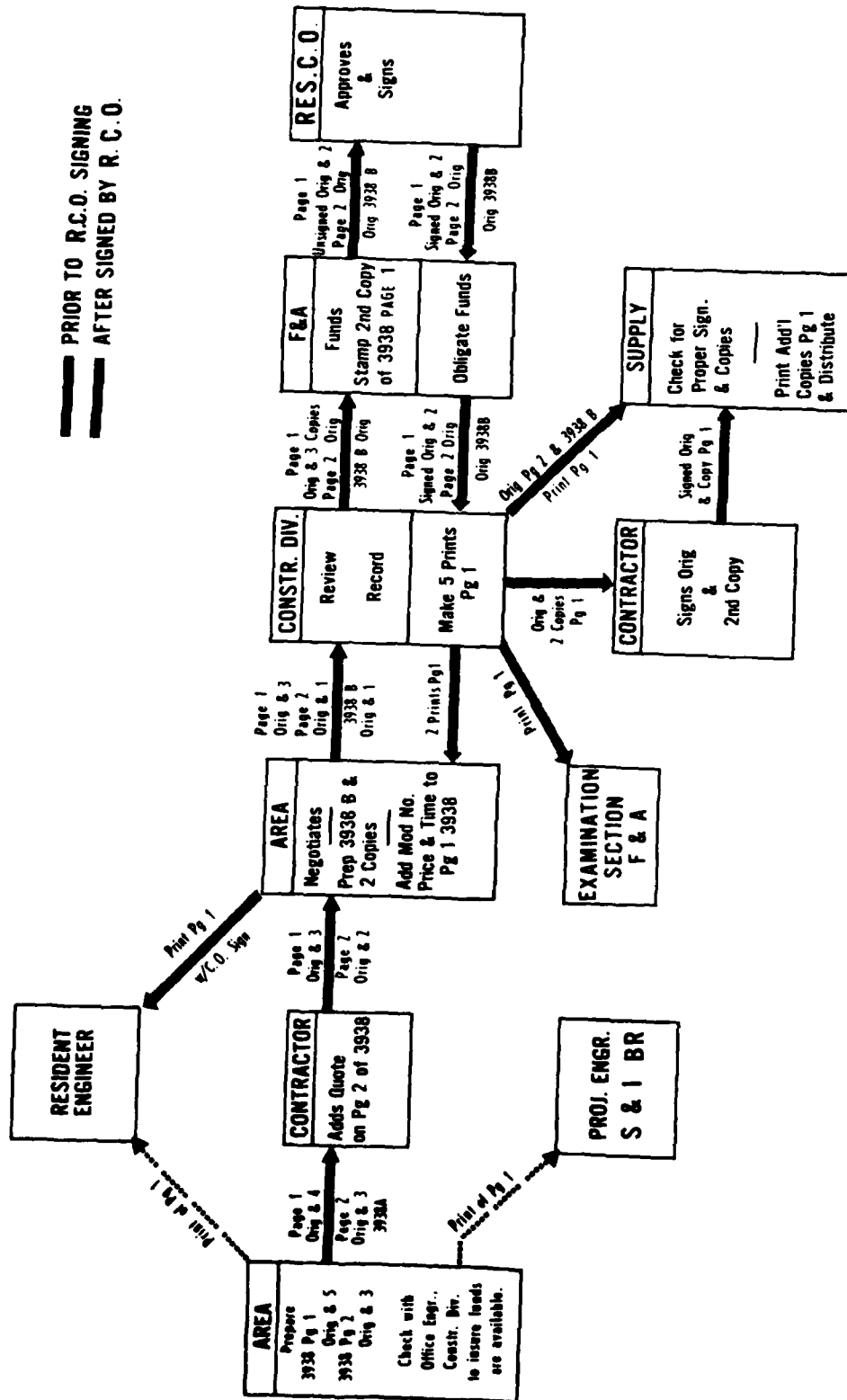
(6) Assistance by Government. To be weighted from .12 to .03 on the basis of average to above average. Things to consider: use of Government-owned property, equipment and facilities, expediting assistance, etc.

(7) Subcontracting. To be weighted inversely proportional to the amount of subcontracting. Where 80% or more of the work is to be subcontracted the weighting is to be .03 and such weighting proportionately increased to .12 where all the work is performed by the contractor's own forces.

(c) When considered necessary because of unusual circumstances or local conditions, the range of weight may be increased to an upper limit of .15 if supported by adequate justification and approval of the Division Engineer.



# FLOW CHART - ENG 3938, 3938A, 3938B



CORPS OF ENGINEERS [ ] NEW ENGLAND DIVISION

<b>CONTRACT MODIFICATION PROPOSAL AND ACCEPTANCE</b> <b>(Modification of \$10,000 or less)</b>			Job Change No. 3
<b>1. ISSUING OFFICE</b>  NEDAR-RH	<b>2. CONTRACT NO.</b>  DACW 33-70-C-0166	<b>3. MODIFICATION NO.</b>  P00003	
<b>4. TO (Contractor)</b> Colangelo Construction Co. 160 Sterling Street West Boylston, Mass. 01853	<b>5. PROJECT LOCATION AND DESCRIPTION</b> Public Use Development - 1970 Recreation Facilities, East Brimfield Reservoir, Mass.		
<b>6. A proposal is requested for making the hereinafter described change in accordance with specification and drawing revisions cited herein or listed in attachment herein. Submit your proposal in space indicated on page 2, attach detailed breakdown of prime and subcontract costs. (See Special Provisions, Modification Proposal-Price Breakdown) DO NOT start work under this proposed change until you receive a copy signed by the Contracting Officer or a directive to proceed.</b>			
<div style="display: flex; justify-content: space-between;"> <span>28 May 1971</span> <span>C. E. BESHARA, Proj. Engr., R&amp;H Area</span> </div> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>date</span> <span>typed name and title</span> <span>signature</span> </div>			
<b>7. DESCRIPTION OF CHANGE:</b> Pursuant to the clause of this contract entitled "changes", the contractor shall furnish all plant labor and material, and perform all work necessary to accomplish the following described work: Install new tee and drain valve on existing tank control piping - Site 2. (See Sketch No. SK-1, dated 27 May 1971) Install two (2) hose bibs in place of drain plugs - Pipe Chase, Site 2. Install stop valves at all urinals (4 required). Provide wood blocking to support tanks on all water closets. Tap water fountain drain and install rigid surface screen secured with screw.			
<b>A. SPECIFICATIONS: DIVISION I, SPECIAL PROVISIONS:</b>  (1) Paragraph SF-3. CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS: In subparagraph a. Sketch No. SK-1 entitled "DRAIN VALVE FOR EXISTING PRESSURE TANK SITE NO. 2" is added to the list of drawings.  (2) Paragraph SF-49. NOTES TO BE ADDED TO THE CONTRACT DRAWINGS: The following notes are to be added to the Contract Drawings: "c. Drawing No. THA-22, Sheet 1. Tap Water Fountain drain and install rigid surface screen secured with screw at site No. 1." "d. Drawing No. THA-22, Sheet 2. Install two (2) hose bibs in place of drain plugs in Pipe Chase, site No. 2, and install stop valves at all urinals in sites 1 and 2." "e. Drawing No. THA-22, Sheets 2 and 3. Provide wood blocking to rigidly support water tanks on all water closets."			
<b>B. CONTRACT:</b> The total contract price is increased \$504.70.			
<i>Except as hereby Modified, all terms and conditions of said contract as heretofore Modified remain unchanged and in full force and effect.</i>			
<b>The foregoing modification is hereby accepted:</b> <b>CONTRACTOR</b> Colangelo Construction Co.		<b>UNITED STATES OF AMERICA</b>	
<b>BY</b> _____ <div style="text-align: center; font-size: small;">signature</div>		_____ <div style="text-align: center; font-size: small;">signature</div>	
_____ <div style="text-align: center; font-size: small;">date</div>		21 June 71 Resident Contracting Officer <div style="text-align: center; font-size: small;">date</div>	
_____ <div style="text-align: center; font-size: small;">typed name and title</div>		_____ <div style="text-align: center; font-size: small;">typed name of contracting officer representative</div>	

Colangelo Construction Co.

15 June 1971

Contract No. DACW 33-70-C-0166  
Modification No. P00003  
Job Change No. 3

Public Use Development  
1970 Recreation Facilities  
East Brimfield Reservoir, Mass.

C. SCHEDULE OF PAYMENTS:

- (1) Item 3A and Total schedule "A", site No. 1, are each increased \$197.35.
- (2) Item 3B is increased \$197.35, Item 4B is increased \$110.00, and total schedule "B", site No. 2 is increased \$307.35.
- (3) Total schedules A & B, combined is increased \$504.70.

D. No change in Time.

## CONTRACT MODIFICATION PROPOSAL AND ACCEPTANCE (PAGE 2)

8. ISSUING OFFICE NEDAP-RH		9. CONTRACT NO. DACW 33-70-C-0166	10. MODIFICATION NO. F00003
11. <b>CONTRACTOR'S PROPOSAL—CHANGE IN CONTRACT PRICE</b> (Detailed breakdown, attach additional sheets as necessary)			
<b>NOTE: SIGN AND RETURN ORIGINAL AND COPIES. RETAIN ONE COPY FOR YOUR FILE</b>			
NET INCREASE \$ 504.70		NET DECREASE \$	CALENDAR DAYS INCREASE _____ DAYS
(Proposal)			
<u>Carpentry</u>			
Install Wood Blocks to support tanks on old water closets:			
1 Carpenter	8 hours @ \$7.75	Incl. Travel Time	62.00
1 Laborer	8 hours @ \$5.80	Incl. Travel Time	46.40
Generator Rental			12.00
Transportation 98 miles @ \$.12 per mile			11.76
Screws and Blocks			4.00
<u>Plumbing</u> (as per job Change #3)			
Materials			84.50
Plumber	16 hours @ \$8.125	incl. travel time	130.00
Travel expense 116 miles @ \$.12 per mile			13.92
			364.58
Overhead - 15% <i>oh. for small change here - completion of contract</i>			54.69
			419.27
Scott Bros. Pump Engineering Services - Fee <i>reasonable</i>			35.00
			454.27
Profit 10%			45.47
			499.70
Bond Fee - 1%			5.00
TOTAL			\$504.70
DATE 6/4/71	TYPED NAME AND TITLE Joseph L. Colangelo - Treasurer		SIGNATURE

## CONTRACT MODIFICATION PROPOSAL AND ACCEPTANCE

Job Change No. 2  
(CONTRACTING OFFICER'S COPY)

12 PROJECT Public Use Development - 1970 Recreation Facilities, East Brimfield Reservoir, Mass.		13 CONTRACT NO DACW 33-70-D-0166	14 MODIFICATION NO P00003
15 FUNDS PROGRAMMED FOR THIS CHANGE IN THE AMOUNT OF 9tx3122 CG CE Civil CS: 711 (EAST BRIMFIELD RESERVOIR) \$504.70			
16 NECESSITY FOR CHANGE AND REASON FOR OMISSION FROM PLANS AND SPECIFICATIONS <p>a. Blocking for water closet tanks and secured screen on fountain drain are provided to prevent damage to facilities by vandalism or mis-use.</p> <p>b. Plumbing revisions are provided to facilitate maintenance and prevent costly repairs.</p>			
17 RESUME OF NEGOTIATIONS OR RECOMMENDATIONS (Government representative) <p>The contractor's quotation was reviewed and found to be fair and reasonable. Acceptance is recommended.</p> <p>This project is essentially complete and since this change represents only minor items, no change in time is necessary.</p>			
DATE 15 June 71	TYPED NAME AND TITLE OF GOVERNMENT REPRESENTATIVE C. E. BESCHARA, Project Engineer, R&H Area		SIGNATURE

ENG FORM  
APR 1967 3938-B

GPO 1967 OF - 259-696

**DISPOSITION FORM**

(AR 346-15)

REFERENCE OR OFFICE SYMBOL

NEDCD-SI

SUBJECT

Contract No. DACW 33-70-C-0293, Construction of  
By-Pass, Union Village, Vt., Job Change No. 4

TO

Chief, Construction Div.

FROM

Area Engineer

DATE

6 November 1970

CMT 1

Mr. Griffin/med/268

1. Forwarded herewith for action is Findings of Fact for Job Change No. 4 under subject contract.

2. Revisions to the Specifications and Contract are as follows:

(A) SPECIFICATIONS

1/ PART II, SPECIAL PROVISIONS. The following new paragraph is added:

"SP-52 - Notes to be Added to Contract Drawings. Notes are added to the contract drawings as designated below:

(1) On Drawing No. HC-1-1658 and HC-1-1659, Sheets 12 and 13 of 102, respectively, the following notes are added:

- a. Omit guard rail and anchors from Station 91 +20 to Station 95+80 left  
Omit guard rail and anchors from Station 91+75 to Station 97+25 right
- b. Flatten side slopes with fill from roadway excavation to 5 on 1 from Station 91+75+ to Station 97+75<sup>±</sup> and omit gravel bedding and rip-rap from Station 91+25<sup>±</sup> to Station 97+75<sup>±</sup> left and Station 92+0<sup>±</sup> to Station 97+75<sup>±</sup> right.
- c. Lower foundation for double-wing headwall Station 94+0 right to solid foundation below peat.
- d. Fertilize, seed, and mulch slopes Station 91+25<sup>±</sup> to Station 97+0<sup>±</sup> left and Station 91+75<sup>±</sup> to Station 97+75<sup>±</sup> right."

2/ PART III, TECHNICAL PROVISIONS, Section TP-2, Miscellaneous Items. The following new paragraphs are added:

"TP 2-03A. PEAT EXCAVATION. (Item No. 3A)

- a. Work. Where peat is encountered under road area, it shall be excavated to hard sub-soil for full width of paved portion of road, with side slopes of one on one. Material shall be placed and spread on side beyond toe of road slopes or hauled and disposed off the job limits as directed by the Contracting Officer.
- b. Method of Measurement. The amount of peat excavation will be determined by the average end area.

NEDCD-SI

6 Nov 70

SUBJECT: Contract No. DACW33-70-C-0293, Constr. of By-Pass, Union Village, Vt., Job Change No. 4

- c. Basis of Payment. This work shall be paid for at the contract unit price for peat excavation, which price shall include all costs for excavating and disposal of material, either by casting and spreading where directed or hauling off job.

TP 2-03B. Removal of Fill Placed. (Item No. 3B)

a. Work. Where sub-surface foundation material is found to be unsatisfactory, road fill material already in place shall be removed, cast aside and after unsatisfactory material is removed, will be replaced as fill and compacted in accordance with contract specifications.

b. Method of Measurement. The amount of removal of fill placed shall be determined by the average end area.

c. Basis of Payment. The work shall be paid for at the contract unit price for removal of fill placed, which price shall include all costs for removal, stockpiling, rehandling, placement, and compaction."

(B) CONTRACT. Page 1. The estimated contract consideration is decreased Two Thousand Nine Hundred Sixty-four and 50/100 Dollars (\$2,964.50)

(C) SCHEDULE OF PAYMENTS.

1/ The following payment items are increased as indicated:

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
2	Clearing & Grubbing	-----	Job	L.S.	\$150.00
163A	Class "A" Concrete	3.3	C.Y.	\$50.00	165.00
803A	Mulching	3,900	S.Y.	0.04	156.00
806D	Fertilizing & Seeding, Type II	3,900	S.Y.	0.05	195.00

2/ The following payment items are decreased as follows:

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
207	Gravel Fill	450	C.Y.	\$1.50	\$675.00
294	Two Cable Guide Railing	1,010	L.F.	1.65	1,665.50
299	Compensating Type Anchorage	4	Ea.	40.00	160.00
317A	Riprap	1,670	Tons	4.00	6,680.00

3/ The following new payment items are added:

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
3A	Peat Excavation	3,000	C.Y.	1.50	\$4,500.00
3B	Removal of Fill Placed	1,000	C.Y.	1.05	1,050.00

4/ The TOTAL is decreased \$2,964.50.

*James Brown*  
Area Engineer

NEDCI-SI

FINDINGS OF FACT FOR CONTRACT MODIFICATION

CONTRACTOR:  
Schmidt Brothers, Inc.  
58 High Street  
Hyde Park, Massachusetts

Job Change No. 1  
Modification No. 1  
DATE: 6 November 1970  
CONTRACT NO: DACW33-70-C-0293

PROJECT:  
Construction of By-Pass Road, Union Village Dam, Vt.

PRICE ADJUSTMENT: \$2,964.50 (Credit)      EXTENSION OF TIME: None

1. BRIEF DESCRIPTION OF CHANGE:  
Modify design of new roadway construction between Stations 91+25<sup>+</sup> and 95+75<sup>+</sup>.
2. NECESSITY FOR MODIFICATION:  
Unsatisfactory sub-soil conditions encountered under new road relocation.
3. REASON FOR OMISSION FROM ORIGINAL PLANS AND SPECIFICATION: N/A
4. APPLICABLE CONTRACT CLAUSE: Clause 3.
5. DETAILED JUSTIFICATION OF PRICE:  
By letter dated 11 September 1970, (Exhibit A), the Area Engineer notified the contractor of the proposed changes and furnished estimated quantities of payment schedule items which would be affected. By letter dated 18 September 1970, (Exhibit B), the contractor submitted a quotation of \$1.25 per cubic yard for removal of peat and removal of fill placed on peat, and indicated that the contract unit prices would be acceptable for both the increases and decreases to the other items involved. The contractor also stated that additional clearing would be required, but did not submit a quotation. A negotiation conference was held in the contractor's field office on 17 October 1970. (See Exhibit C) After discussions of operations required for the performance of the work, it was agreed that the cost of the two earth items would vary, and prices should be quoted separately. The quantity of additional clearing required was also discussed. On 18 October 1970, the contractor telephoned his quotation of \$1.50 per cubic yard for peat excavation, \$1.05 per cubic yard for removal of fill placed, and a lump sum of \$150.00 for additional clearing. These prices were considered fair and reasonable when compared with the Government Estimate (Exhibit D) and were accepted by letter from the Contracting Officer dated 26 October 1970, (Exhibit E).  
The effect of these prices produced a total decrease of \$9,180.50 and a total increase of \$6,216.00, resulting in a net decrease of \$2,964.50.



NEDCD-SI

FINDINGS OF FACT FOR CONTRACT MODIFICATION (Continued)

Job Change 1 to Contract No. DACW33-70-C-0293 with Schmidt Brothers, Inc.

6. JUSTIFICATION OF TIME EXTENSION:

This change can be accomplished within the modified time for performance of the basic contract work. Accordingly, a time extension is not considered justifiable.

Submitted by:

Approval Recommended by:

Approved by:

Office Engineer

Chief, Contr. Adm. Br.

Contracting Officer

- \*EXHIBITS:
- A. Ltr Requesting Contractor's Quotation
  - B. Contractor's Quotation
  - C. Resume of Negotiations
  - D. Government Estimate
  - E. Ltr of Acceptance and Authorization to Proceed

\*Exhibits are not included because they are not considered necessary in this pamphlet

<b>RECORD OF CONTRACT NEGOTIATIONS</b> (SEE APPROPRIATE ER GOVERNING PREPARATION, SUBMISSION AND DISTRIBUTION) (For Governmental Use Only)		CHANGE ORDER <input type="checkbox"/> SUPPL AGREE <input checked="" type="checkbox"/>	MOD NO P0015
		CONTRACT NO DACW 33-68-C-9004	
TO CHIEF OF ENGINEERS DEPARTMENT OF THE ARMY WASHINGTON 25, D. C. ATTN: ENGMCKC (SUBMIT SINGLE COPY)		FROM (District and Division) New England Division, Corps of Engineers 424 Trapelo Road Waltham, Massachusetts 02154	
TYPE OF SERVICES <input type="checkbox"/> A-E <input type="checkbox"/> CONSULTANT <input type="checkbox"/> AECM <input checked="" type="checkbox"/> CONSTRUCTION			
1 SERVICES IN CONNECTION WITH (Project Identification, Location and Description)*  Construction of FY 65/66 Facilities, NASA Electronics Research Center, Cambridge, Mass.  Construction of Utility Tunnel - Phase A			
2 NAME AND ADDRESS OF CONTRACTOR* Aberthaw Construction Co. Corner Sixth and Potter Streets Cambridge, Massachusetts 02142			
3 PLACE AND DATE OF NEGOTIATION (Complete Address) NASA Area Office, 639 Mass. Ave., Cambridge, Mass. 27 May 1971			
4 CONTRACTOR REPRESENTATIVES (Name and Title) John Cataldo, Vice President Aram Hagopian, Project Manager			
5 GOVERNMENT REPRESENTATIVES (Name and Title) Jack Jackson, Area Engineer Carnay Terzian, Structural Engineer Howard Medlar, Civil Engineer			

**6. EVENTS LEADING TO NEGOTIATIONS**

(A) REQUIREMENT FOR WORK. (Such as copy of Directive or Letter of authority from OCE or Using Service and/or brief statement as to necessity of contract action.)

Utility Tunnel was an additive bid item not awarded under the original contract because of high cost and was subsequently redesigned. Installation of utility lines carried by tunnel is required before operational tests of mechanical systems in either the Center Service Bldg or any of the Laboratory Bldgs can be performed. Authority from OCE for construction under Supplemental Agreement is cited below.

(B) CONCISE JUSTIFICATION FOR USE OF NEGOTIATION, INCLUDING CITATION OF APPLICABLE USC AUTHORIZATION AND CIRCUMSTANCE PERMITTING NEGOTIATION, OR APPLICABLE CONTRACT CLAUSE UNDER WHICH A MODIFICATION IS ISSUED.

Justification is contained in OCE 1st Indorsement, dated 1968 April 3, to letter from Division Engineer, dated 1968 March 28, (EXHIBIT "A").

(C) FIRMS CONSIDERED IN ORDER OF PREFERENCE (Minimum of Three) \*

N/A

(D) CONTRACTOR(S) SELECTION APPROVED BY (Name, Title, Date) \*

N/A

(E) USE OF CPFF TYPE CONTRACT OR MODIFICATION APPROVED BY (Name, Title, Date) \*

N/A

(F) NEGOTIATION AUTHORIZED BY (Name, Title, Date) OCE 1st Indorsement, dated 1968 April 3, to letter from Div. Eng., dated 1968 March 28.

7 RESUME OF ACTUAL NEGOTIATIONS PROCEEDINGS NOT OTHERWISE SET FORTH IN THE ATTACHMENT TO ENG FORM 2180A (See ER 1110-345-30) THIS WILL INCLUDE

(A) SERVICES TO BE PROVIDED BY THE CONTRACTOR, BY CONSTRUCTION SUBCONTRACTORS OR OUTSIDE CONSULTANTS OR PROFESSIONAL ASSOCIATES, CONTRACTOR PERSONNEL POLICIES, STATEMENT ON PROCUREMENT AND/OR INSTALLATION OF EQUIPMENT WHERE APPLICABLE

(B) STATEMENT CONCERNING AMOUNT OF CONTRACTORS ORIGINAL PROPOSAL

(C) ITEMS SOLELY OF INTEREST TO THE GOVERNMENT, SUCH AS AMOUNT OF INITIAL GOVERNMENT ESTIMATE, THE BASIS FOR UPWARD OR DOWNWARD REVISION DURING NEGOTIATIONS, OR THE CONCLUSIVE JUSTIFICATION REQUIRED BY ITEM 9 FOR AWARDS THAT DIFFER FROM THE GOVERNMENT ESTIMATE.

The Supplemental Agreement consists of construction of a tunnel with utilities from the High Rise Laboratory to the Master Vault (Phase A)

The contractor's original proposal was \$423,014.55.

The initial Government Estimate was \$241,771.00, was increased to \$327,770.00.

The major increases included an allowance for pumping costs previously omitted, increase in labor hours for mech. work due to confined working space and requirement to move material by hand into tunnel.

(ATTACH EXTRA SHEETS IF ADDITIONAL SPACE IS NECESSARY)

**8 GOVERNMENT ESTIMATE** (Show separate detailed breakdowns and/or computations for deletions, additions, Title I and Title II. In case of construction contracts procurement costs and procurement fees will be shown separately. In all cases estimated costs will be listed separately from fees. When AE contract price is taken direct from curves identify curves utilized and provide details on computations. Profit or fee to be shown separately from estimated reimbursable or other costs where applicable. When curve derived AE contract price is reduced because of government furnished items provide breakdown & justification of evaluations applied to the various reductions.)  
(A) CONSTRUCTION AND/OR ARCHITECT ENGINEER (Curve Derived) FINAL INDEPENDENT GOVERNMENT ESTIMATE:

See attached Government Estimate (EXHIBIT "C")

(B) ARCHITECT ENGINEER (When detailed analysis is involved the following minimum breakdown will apply. The breakdown will be an independently prepared final Government estimate of cost. The A-E will not be required to submit a similar breakdown of his proposal or the estimated price.)

## 7 - ITEM BREAKDOWN

## (1) DIRECT LABOR COST

_____	M.H. @ \$ _____	AV	\$ _____
_____	M.H. @ \$ _____	AV	\$ _____
_____	M.H. @ \$ _____	AV	\$ _____
_____	M.H. @ \$ _____	AV	\$ _____
_____	M.H. @ \$ _____	AV	\$ _____
_____	M.H. @ \$ _____	AV	\$ _____

N/A

## SUB TOTAL DIRECT LABOR

\$ \_\_\_\_\_

## (2) OVERHEAD ON DIRECT LABOR ( \_\_\_\_\_ %)

\_\_\_\_\_

## (3) MATERIALS, SUPPLIES

\_\_\_\_\_

## (4) GEN &amp; ADMIN OVERHEAD ( \_\_\_\_\_ %)

\_\_\_\_\_

## (5) TRAVEL

\_\_\_\_\_

## (6) OTHERS (Renderings, Reproduction, Printing, Consultants, etc.) (Describe in detail)

\_\_\_\_\_

## SUB TOTAL COST TO ARCH-ENGR

\$ \_\_\_\_\_

## (7) PROFIT OR FEE ( \_\_\_\_\_ %)

\_\_\_\_\_

## TOTAL GOVERNMENT ESTIMATE (Options Included)

\$ \_\_\_\_\_

(ATTACH EXTRA SHEETS IF ADDITIONAL SPACE IS NECESSARY)

## 9. PRICING DATA

A. THE NEGOTIATED CONTRACT PRICE OF \$ 323,000.00 IS LESS THAN ☒ THE SAME AS ☐ OR GREATER THAN ☐ THE GOVERNMENT ESTIMATE. NO NEGOTIATED CONTRACT AWARD WILL BE MADE UNLESS THE NEGOTIATED PRICE EITHER (1) IS EQUAL TO OR LESS THAN THE GOVERNMENT ESTIMATE IN THE CASE OF BASIC CONTRACTS OR ADDITIONS, OR (11) IS EQUAL TO OR GREATER THAN THE GOVERNMENT ESTIMATE IN THE CASE OF DELETIONS, WHICH MUST BE CONSIDERED SEPARATELY, OR (111) IS SUPPORTED BY A STATEMENT AND FULL JUSTIFICATION OF RECORD (which will adequately satisfy subsequent reviews) WHEN THE ALLOWED PRICE EITHER EXCEEDS THE GOVERNMENT ESTIMATE OF RECORD IN THE CASE OF BASIC CONTRACTS AND ADDITIONS OR IS LESS THAN THE GOVERNMENT ESTIMATE OF RECORD IN THE CASE OF DELETIONS. OTHERWISE PRICE REDETERMINATION CLAUSES MUST BE USED.

## B. APPLICABLE ONLY TO A-E AWARDS:

(1) THAT PART OF THE CUMULATIVE CONTRACT PRICE TO DATE WHICH IS APPLICABLE STRICTLY TO THE PRODUCTION AND DELIVERY OF DESIGNS, PLANS, DRAWINGS AND SPECIFICATIONS IS \$ \_\_\_\_\_ IT REPRESENTS \_\_\_\_\_% OF THE ESTIMATED CONSTRUCTION COSTS OF \$ \_\_\_\_\_ TO WHICH THE DESIGN SERVICES RELATE. THIS ITEM HAS PARTICULAR REFERENCE TO THE 6% STATUTORY LIMITATION REQUIREMENT.

(2) THE TOTAL CUMULATIVE NEGOTIATED CONTRACT PRICE OF \$ \_\_\_\_\_ (which includes all modification and optional or definitive services covered by the contract, design or otherwise, including but not limited to supervision and inspection of construction), IS \_\_\_\_\_% OF THE TOTAL ESTIMATED CONSTRUCTION COST OF \$ \_\_\_\_\_ TO WHICH THE OVERALL SERVICES RELATE. THIS ITEM HAS PARTICULAR REFERENCE TO THE OCE OVERALL ADMINISTRATIVE 6% LIMITATION.

10. PERIOD OF SERVICE (Should performance schedule be based on authorized use of overtime, so state, giving name and title of officer authorizing such use and date of action)

A separate completion date of 11 May 1969 is established for all work under the Supplemental Agreement. See Serial Letter No. 180 dated 22 July 1968 from Contracting Officer (EXHIBIT "L")

11. TYPE OF CONTRACT (Check Applicable Type)

☒ (A) FIXED PRICE (Lump Sum or Unit Price)

☐ (C) PERSONAL SERVICES

☐ (B) PRICE REDETERMINATION TYPE

☐ (D) CPFF OR OTHER COST TYPE

12. FUNDS CITATION FUNDS IN THE AMOUNT OF \$323,000 ARE AVAILABLE TO COVER THE COSTS OF THIS PROPOSED AWARD AS INDICATED IN THE ATTACHED DIRECTIVE(S).

13. ALLOTMENT NUMBER:

21 x 2050 808-9710 P6700 RO 68-042 S19-016 Cost Series 5136

14. THE PAST PERFORMANCE OF THE CONTRACTOR WAS \*

N/A

15. THE FINANCIAL STATUS OF THE CONTRACTOR IS: \*

N/A

16. NEGOTIATIONS WERE CONCLUDED ON 1968 July 22 18 WITH THE CONTRACTOR

17. THE FINAL CONTRACT PRICE, MUTUALLY AGREED TO IS: \$323,000.00

18. THIS NEGOTIATED PRICE WAS CONCURRED IN BY: (Signature of individual authorized to approve contract price)

SUBMITTED BY:

APPROVAL RECOMMENDED BY:

APPROVED:

JACK JACKSON, Deputy

H. R. MATSON, LTC, CE

REMI O. RENIER

Area Engineer

Area Engineer

Colonel, CE, Division Engineer  
Contracting Officer

\* For application when change orders are involved. Description of services required by Item 1 may be limited to an identification of the line item or specific phase of work to which the change order relates. Information specified by Item 2 may be confined to the name of the contractor. A statement of "Not Applicable" (N/A) may, where appropriate, be substituted for the data called for by Items 6C through 6E, and Item 13 through 15.

4. Incls:

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

See Attached Sheet

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

NOTE: When Dist or Div is forwarding records of negotiation to OCE only Incl. 1 is required unless additional data is deemed appropriate by originating office.

This record of negotiation will be supplemented at local level to extent necessary to meet requirements of APP, EM, and ERs and Negotiation Manuals.

<b>CONTRACTOR DATA</b>		<input type="checkbox"/> CHANGE ORDER <input checked="" type="checkbox"/> SUPPL. AGREEMENT	<b>1. CONTRACT NR.</b> DACA33-68-C-9004
<b>2. CONTRACT FOR</b> <input checked="" type="checkbox"/> CONSTRUCTION <input type="checkbox"/> ARCHITECT-ENGINEER SERVICES <input type="checkbox"/> AECM		<b>3. NAME AND LOCATION OF PROJECT</b> Construction of FY 65/66 Facilities	
<b>4. FIRM NAME</b> Aberthaw Construction Co.		<b>5. BUSINESS ADDRESS &amp; TELEPHONE NR. *</b> Corner Sixth and Potter Streets Cambridge, Massachusetts 02142 492-6710	
<b>6. TYPE OF FIRM *</b> <input type="checkbox"/> INDIVIDUALLY OWNED <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> JOINT VENTURE <input checked="" type="checkbox"/> CORPORATION (INC. IN STATE OF <u>Massachusetts</u> )			
<b>7. EXACT NAMES OF OWNERS, PARTNERS AND/OR OFFICERS *</b> George F. Dobbin      President Herbert W. Standke      Executive Vice President Lou Tura      Vice President John Cataldo      Vice President Richard A. Davis      Treasurer			<b>8. AGGREGATE NR. OF EMPLOYEES (To establish if more or less than 500) *</b>  1,000
<b>9. TYPE PAYMENT PROVISION PREFERRED *</b> <input checked="" type="checkbox"/> MONTHLY PARTIAL PAYMENTS <input type="checkbox"/> LUMP SUM UPON COMPLETION <input type="checkbox"/> OTHER - SPECIFY _____			
<b>10. NAME OF ASSOCIATE FIRM OR FIRMS OR CONSULTANTS PERFORMING ANY SERVICES UNDER THIS A-E CONTRACT.</b> (For each firm or consultant indicate the services to be provided. . . e.g., Architectural, Structural, Mechanical, Electrical, Drafting, etc.. Any change in the following requires prior approval of the Contracting Officer.) *  N/A			
<p><b>11. The negotiation and proposed award are based upon, among other things, an understanding:</b></p> <p>a. That no member of the firm, owner or part owner, executive officer or director, and no employee of this organization receiving compensation therefrom is employed by the Government on construction work under the jurisdiction of the Corps of Engineers.</p> <p>b. That the contract cost, mutually agreed to in the amount of \$ 323,000.00 (options, if any included), is fair and reasonable compensation for the services to be rendered under the proposed contract and as indicated in the attached scope of work upon which the negotiations were based.</p> <p>c. That neither I, nor any member of this organization, employed any person, either directly or indirectly to solicit or secure a contract for the (construction - <del>A-E services</del>), regarding which negotiations have just been concluded, upon any agreement for a commission, percentage, brokerage or contingent fee; that all information and data submitted by me to the United States, incident to these negotiations are accurate and true to the best of my knowledge and belief. Furthermore, that in the event the contract is awarded to my firm, no part of the contract price shall be paid to any person, firm or corporation for soliciting or assisting in any manner whatsoever in securing this contract.</p>			
<u>1968 July 22</u> (Date)		<u>ABERTHAW CONSTRUCTION CO.</u> <u>L. B. TURA, Vice Pres.</u> (Title) (Contractor Signature)	
(The contractor's negotiator may sign if there is evidence that the contractor has granted the negotiator that authority)			
NOTICE (See ER 1110-345-30 and ER 1110-345-40)			
When the type of contract involved requires such information the Contractor will provide as attachments, applicable data on organization, present and proposed salaries, contractor owned construction equipment, facility and/or security clearances and other pertinent items in accordance with understandings reached during the negotiations. The Government will provide, as an attachment a resume of the actual negotiation proceedings which were attended by the Contractor or his representative. Particular attention will be directed toward including matters of record which constitute areas of mutual understanding and will include project data, contract appendices, forms, schedules, design or other criteria, materials, and equipment furnished the contractor by the Government. Provision will be made at the end of the resume for the signature of both the principal Contractor representative and the principal Government representative.			
A copy of the scope of work upon which negotiations were based MUST also be attached as part of the official contract file.			
* A statement of Not Applicable (N/A) may, where appropriate, be substituted for information required by Items 5, 6, 7, 8, 9 and 10 when change orders are involved.			

DATE:

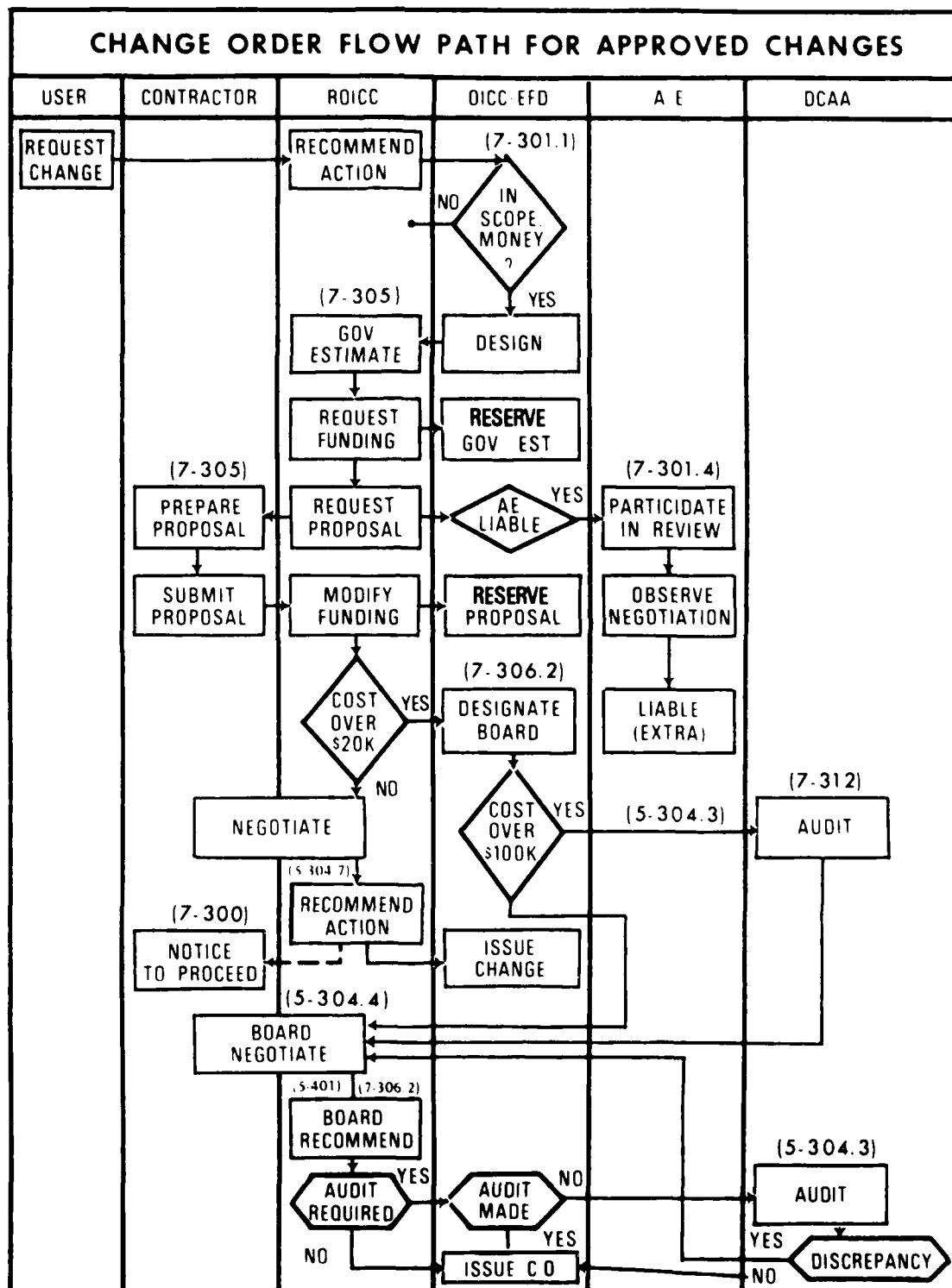
RESUME OF NEGOTIATIONS

(Narrative of proceedings of negotiation conference or conferences --  
where held, who attended, details of discussion, agreements reached,  
etc.)

\_\_\_\_\_  
Signature of responsible  
official of contracting firm

\_\_\_\_\_  
Signature of chief  
Government negotiator





OPNAV 5216/145 (Rev. 7-73)

S/N 0107-778-9111

USE FOR URGENT  
LETTERS, ONLY( **Naval Speedletter** )DO NOT CLEAR THROUGH  
COMMUNICATIONS OFFICE

CHECK TYPE OF MAIL		CLASSIFICATION	DATE	INSTRUCTIONS
<input checked="" type="checkbox"/> REGULAR	<input type="checkbox"/> REGISTERED	UNCLASSIFIED	2 Jan. 1979	
<input type="checkbox"/> AIR	<input type="checkbox"/> CERTIFIED	IN REPLY REFER TO WHP/nja Serial: 0003C		1. Message type phraseology is permissible.
<input type="checkbox"/> SPECIAL DELIVERY				2. Both addresses must be appropriate for window envelope or bulk mailing, as intended. Include attention codes, when known. Use dots and brackets as guides for window envelope addresses.
				3. Give priority to processing, routing, and action required. Avoid time-consuming controls.
				4. In order to speed processing, a readily identifiable, special window envelope, OPNAV 5216/145A, Speedletter Envelope, is provided for unclassified speedletters where bulk mailing is not used. Other window envelopes also may be used. In bulk mail, speedletters should be placed on top of regular correspondence.

To: **Commanding Officer**  
**Northern Division, Code 05**  
**Naval Facilities Engineering Command**  
**Naval Base**  
**Philadelphia, PA 19112**

Fold STANDARD REFERENCES AND ENCLOSURES, IF ANY, TEXT AND SIGNATURE BLOCK

Subj: Request for Change Order Issuance: N62472-78-C-0130  
 Title: General Repairs, Conning Towers  
 Contractor: Carlin Contracting Co., Inc.

1. Issuance of a comprehensive change order to the referenced contract is requested. Proposed wording of the change order:

- a. Provide all necessary labor, equipment and approved material to replace sheetrock roof sheathing of all carports and storage sheds with 1/2" CDX sheathing.

Cost Increase: \$45,787.00

Time Increase: -0- days

2. A Board on Changes was convened to determine an equitable cost increase for the changed work involved in replacing the entire carport and storage roof sheathing with 1/2" CDX plywood. The Board Report is forwarded as enclosure (1). The Government estimate, enclosure (2), is in the amount of \$56,251.00. A review of the Board Report and all pertinent data indicates that a price increase of \$45,787 with no change in contract time is fair and reasonable.

3. The proposed change is within both contract and project scope. Fund availability for this change was confirmed by a telephone conversation between Mr. W. Potuchek, Civil Engineer, and Mr. T. Martin, Northern Division, Code 0522, on 15 December 1978.

COPY TO

From

**Resident Officer in Charge of Construction**  
**Bldg. 405, Box 26**  
**Naval Submarine Base New London,**  
**Groton, CT 06340**

← ADDRESS REPLY AS  
 SHOWN AT LEFT, OR, RE-  
 PLY HEREON AND RETURN

CLASSIFICATION

UNCLASSIFIED

( (

4. The total value of changes to the basic contract, including this proposal, does not exceed the original contract award price. The pursuit of A&E liability is not applicable. The extensive deteriorated plywood could not be determined until the built up roof was removed. The change order designator for this proposed modification is UNFO, unforeseen conditions.

W. G. MATTHEWS

Enclosures:

- (1) Report of Board on  
Changes dtd 26 Dec 78
- (2) Government Estimate  
dtd 8 Dec 78

(  
26 December 1978

REPORT OF BOARD ON CHANGES

Subj: Contract N62472-78-C-0130 - General Repairs, Conning Towers -  
Naval Submarine Base New London, Groton, Ct.

Ref: (a) NAVFAC P-68 (para. 7-306.2)

Encl: (1) Carlin Contracting Co., Inc. proposal dated 11 December 1978

1. In accordance with reference (a), a Board on Changes met at the office of the Resident Officer in Charge of Construction, Naval Submarine Base New London at 2:00 p.m. on 11 December 1978 to negotiate the contractor's proposal for replacing the entire roof sheathing of all carports and storage sheds with one half inch CDX plywood.

2. The following personnel were present:

LCDR G. W. Holland, CEC, USN, Senior Member  
Mr. W. H. Potuchek, Member  
Mr. Patrick J. Carlin, Contractor Member

3. Mr. Carlin began the proceedings by presenting his proposal, enclosure (1), in the amount of \$52,607. A general discussion followed regarding whether the contractor could perform this work for the price submitted. The ROICC members recognized that the proposal was reasonable, however, pointed out that the proposal did not take into account a credit for the 10 percent required as part of the subject contract. The contractor's representative agreed to reduce his proposal by 10 percent. The Government pointed out that a percentage of the replacement cost more per square foot than a total replacement and, therefore, a straight 10 percent was not representative of the true credit due. The contractor agreed to reduce his proposal further to \$45,787. This was agreed to be the Board as being fair and reasonable for the additional work requested.

4. Accordingly, it is recommended that an additive contract modification in the amount of \$45,787 be made with no change in the contract time. Recommended wording for the modification is as follows:

"Provide all necessary labor, equipment and approved material to replace the entire roof sheathing of all carports and storage sheds with one half inch CDX sheathing." COST INCREASE \$45,787.00/NO TIME INCREASE

*G. W. Holland*

G. W. HOLLAND, LCDR, CEC, USN, Senior Member

OICC Approved

*William H. Potuchek*

W. H. POTUCHEK, Member

OICC Disapproved

*P. J. Carlin*

P. J. CARLIN, Contractor Member

# CONSTRUCTION CONTRACT MODIFICATION



Project	Project Authorization No.
(type of work, name & address of facility)	Construction Contract No.
Contractor (name, address)	Change Order No.
	Date By

[illegible]

## Appendix F9

PER FORM 124A  
MAY 1974  
CONSTRUCTION

UNITED STATES POSTAL SERVICE		(Construction Contract Modification)	
REQUEST, PROPOSAL AND ACCEPTANCE		REQUEST	J. Request No.
1. Date of Request		2. Date of Request	
3. Title of Job		REQUEST: Plans submit your proposal for the change outlined below as a modification to the above numbered contract.	
4. Description of proposed change:			
5. The undersigned Contractor proposes to accomplish the above described change in contract requirements -			
<input type="checkbox"/> At an increase in the contract price of \$ _____ (broken down in itemized detail below) <input type="checkbox"/> At no change in the contract price <input type="checkbox"/> At a reduction in contract price of \$ _____ (broken down in itemized detail below) <input type="checkbox"/> With an extension of _____ days to the period of performance.			
6. Cost Detail			
a. Direct Labor (attach supporting detailed estimate)			
b. Insurance			
c. Materials and equipment (attach supporting detailed estimate)			
d. Direct offering of debt or credit for materials, labor and equipment (attach supporting detailed estimate)			
e. Overhead _____ % f. Profit _____ %			
g. Employment (acts under FICA and FUTA)			
h. Subcontracts			
Company		Category of Work	Amount
Subtotal			\$ _____
			\$ _____
			\$ _____
			\$ _____
			\$ _____
			\$ _____
7. Contractor's Commission on Total of Subcontracts			
Contractor's Commission on Total of Subcontracts		Subcontract Total	
		\$ _____	
		\$ _____	
		\$ _____	
Total increase or decrease of contract price		\$ _____	
8. Name and title of person authorized to sign proposal			
9. Date			
10. Signature			
ACCEPTANCE			
11. This acceptance of the foregoing proposal constitutes notice to proceed with the change specified herein.			
12. Name of Contracting Officer (Type or print)			
13. Date			
14. UNITED STATES POSTAL SERVICE			
By _____			

7423  
March 1972

DA  
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